

**The Inter-University Board of India.**

**PROCEEDINGS**

of the

**Twenty-Third Annual Meeting**

held at

**CUTTACK**

on

**1st and 2nd December, 1947.**



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## INTER-UNIVERSITY BOARD, INDIA.

### List of Representatives, 1947-48,

1. Prof. N. K. Sidhanta, M.A., (Cantab),  
Professor of English, University of Lucknow, Lucknow. *Chairman.*
2. Dr. C. Ramalinga Reddy, M.A. (Cantab), D.Litt., M.L.C.,  
Vice-Chancellor, Andhra University, Waltair.
3. Dr. S. Radhakrishnan, M.A., D.Litt., LL.D., F.B.A.,  
Vice-Chancellor, Benares Hindu University, Benares.
4. Sir Maurice Gwyer, K.C.B., K.C.S.I., D.C.L., LL.D.,  
Vice-Chancellor, University of Delhi, Delhi.
5. Khan Bahadur, Dr. M. Hasan, M.A., D.Phil. (Oxon), Bar-at-Law,  
Vice-Chancellor, University of Dacca, Ramna P.O., Dacca.
6. Sir A. L. Mudaliar, B.A., M.D., D.Sc., F.R.C.O.G., F.A.C.S.,  
Vice-Chancellor, University of Madras, Madras.
7. M. Ruthnaswamy, Esq., M.A. (Cantab), Bar-at-Law, C.I.E.,  
Vice-Chancellor, Annamalai University, Annamalainagar.
8. Dr. I. W. Jennings, D.Litt., LL.D.,  
Vice-Chancellor, University of Ceylon, Colombo.
9. H. C. Papworth, Esq., M.A., O.B.E.,  
Vice-Chancellor, University of Travancore, Trivandrum.
10. Dr. P. Parija, D.Sc., O.B.E., I.E.S.,  
Vice-Chancellor, Utkal University, Cuttack.
11. Sir C. P. N. Singh, M.A., C.I.E., M.L.A.,  
Vice-Chancellor, University of Patna, Patna.
12. Dr. Maung Set, C.I.E., B.A., LL.D.,  
The Chairman, Board of Trustees of the University of Rangoon,  
Rangoon.
13. Dewan Anand Kumar, M.A.,  
The Dean of University Instruction, University of the Punjab,  
Lahore.
14. M. Sultan Mohiyuddin Esq., M.A., LL.B., M.Ed.,  
Vice-Chancellor, University of Mysore, Mysore.
15. Dr. Wali Mohammed, M.A. (Punjab), M.A. (Cantab), Ph.D. (Gottingen),  
I.E.S., Vice-Chancellor, Osmania University, Hyderabad (Deccan).
16. Dr. N. P. Asthana, M.A., LL.D., C.I.E.,  
Vice-Chancellor, University of Agra, 23-Canning Road, Allahabad.
17. Dr. Pramathanath Banerjee, M.A., B.L., P.R.S., Barrister-at-Law,  
D.Sc. (Lond), M.L.A.,  
Vice-Chancellor, University of Calcutta, Calcutta.
18. Dr. Tara Chand, M.A., D.Phil. (Oxon),  
Vice-Chancellor, University of Allahabad, Allahabad.
19. Dr. Sir Hari Singh Gour, Kt. M.A., D.Litt., D.C.L., LL.D., Bar-at-Law,  
Vice-Chancellor, University of Saugor, Saugor, C.P.
20. Zahid Husain Esq., M.A., C.I.E.,  
Vice-Chancellor, University of Aligarh, Aligarh.
21. Pandit K. L. Dubey, B.A., LL.B., M.L.A.,  
Vice-Chancellor, University of Nagpur, Nagpur, C.P.
22. Dr. G. S. Mahajani, M.A., Ph.D.,  
Vice-Chancellor, University of Rajputana, Jaipur.

23. Mahamahopadhyaya Pandurang Vaman Kane, M.A., LL.M.,  
Vice-Chancellor, University of Bombay, Bombay.  
Educational Adviser to the Government of India, Ministry of  
Education, New Delhi—3.

Dr. J.C. Chatterjee, M.A., D. Litt., M.L.A.

10—A, Cavalry Lines, Delhi.

(Secretary).

**Succession List of Chairmen of the Inter-University Board of India  
and the places where the annual meetings were held:**

1. The Rev. E.M. Macphail, M.A., D.D., C.I.E., C.B.E.,  
Vice-Chancellor, University of Madras, Madras. 1925 (*Bombay*).
2. The Rt. Hon'ble Dr. Sir Akbar Hydari, Nawab Hyder Nawaz Jung  
Bahadur B.A., LL.D., Finance Member, Executive Council, and  
Member University Council, Osmania University, Hyderabad, Dn.  
(1925-27) (*Delhi & Benares*).
3. Sir R. Venkataratnam Naidu, Kt. M.A. Vice-Chancellor, University  
of Madras, Madras. (1927-28) (*Madras*).
4. Prof. A.C. Woolner, M.A., C.I.E., Vice-Chancellor, The Punjab  
University, Lahore. (1928-30) (*Patna & Dacca*).
5. Principal A.B. Dhruva, M.A., LL.B., I.E.S., (Retd.) Pro Vice-Chancel-  
lor, Benares Hindu University, Benares. (1930-31) (*Mysore*).
6. The Rev. Dr. W.S. Urquhart, M.A., D. Litt., D.D., D.L., Principal,  
Scottish Church College, Calcutta. (1931-32) (*Lahore*).
7. Diwan Bahadur, Sir K. Rammunni Menon, Kt. M.A. (Cantab). Vice-  
Chancellor, University of Madras, Madras. (1932-33) (*Hyderabad-  
Dn.*).
8. Prof. G.H. Langle, M.A., I.E.S., Vice-Chancellor, University Dacca,  
Ramna P.O. Dacca. (1933-34) (*Delhi*).
9. Prof. P.A. Wadia, M.A., University of Bombay, Bombay. (1934-35)  
(*Calcutta*).
10. R. Littlehales, Esqr. M.A., C.I.E., Vice-Chancellor, University of  
Madras, Madras. (1935-36) (*Aligarh*).
11. Pandit Amaranatha Jha, M.A., Professor of English, University of  
Allahabad, Allahabad. (1936-37) (*Nagpur*).
12. Dr. C.R., Reddy, M.A., (Cantab), D. Litt., M.L.C., Vice-Chancellor,  
Andhra University, Waltair. (1937-38) (*Allahabad*).
13. Diwan Bahadur S.E. Runganadhan, M.A., L.T., M.L.C., Vice-Chancel-  
lor, University of Madras, Madras. 1938-39) (*Bombay*).
14. Rajakaryapravina Mr. N.S. Subba Rao, M.A., (Cantab), Bar-at-Law  
Vice-Chancellor, University of Mysore, Mysore. (1939-40) (*Waltair*).
15. Dr. A.C. Sen Gupta, M.A., D. Litt., I.E.S., Director of Public Ins-  
truction and Secretary to Government, Central Provinces and  
Berar, Nagpur. (1940-41) (*Trivandrum*).
16. The Hon'ble Dr. Syamaprasad Mookerjee, M.A., B.L., D. Litt., Bar-at  
Law, M.L.A., 77-Asutosh Mookerjee Road, Calcutta. (1941-42)  
(*Annamalainagar*).
17. Prof. A.B.A. Haleem, B.A., (Oxon), Bar-at-Law, Pro-Vice-Chancel-  
lor, Aligarh Muslim University, Aligarh, (1942-43) (*Mysore*).
18. Sir S. Radhakrishnan, M.A., D. Litt., LL.D., F.B.A., Vice-Chancellor  
Benares Hindu University, Benares. (1943-44) (*Hyderabad Dn.*),



19. Dr. Sachchidananda Sinha, D. Litt. Bar-at-Law, M.L.A., Vice-Chancellor, University of Patna, Patna (1944-45) (*Patna*).
20. Sir Maurice Gwyer, K.C.B., K.C.S.I., D.C.L., LL.D., Vice-Chancellor, University of Delhi, Delhi. (1945-46) (*Colombo*).
21. Dr. J.C. Chatterjee, M.A., D. Litt., M.L.A. (Central), Vice-Chancellor, University of Agra, Agra. (1946-47) (*Jaipur*).
22. Prof. N.K. Sidhanta, M.A. (Cantab), Professor of English and Dean of the Faculty of Arts, University of Lucknow, Lucknow. (1947-48) (*Cuttack*).

### **Succession List of Secretaries of the Inter-University Board of India.**

1. Prof. N. S. Subba Rao, M.A. (Cantab), Bar-at-Law, University Professor of Economics, and Principal, Maharaja's College, Mysore. (1925-27)
2. Prof. P. Seshadri, M.A. Dean, Faculty of Commerce, University of Agra, and Senior Professor of English, Sanatan Dharma College, Cawnpore. (1927-32).
3. Prof. A. R. Wadia, B.A. (Cantab), Bar-at-Law, Professor of Philosophy, Maharaja's College, Mysore. (1932-37).
4. Prof. N.K. Sidhanta, M.A. (Cantab), Dean, Faculty of Arts and Professor of English, University of Lucknow, Lucknow (1937-42)
5. Prof. H. K. Sherwani, M.A. (Oxon), F.R. (Hist). S., Bar-at-Law, Head of the Department of History and Political Science, Osmania University, Hyderabad. Dn (1942-45).
6. K.P. Sinha Esqr. M.A. (Cantab), Principal, G.B.B. College Muzaffarpur. (1945-31st January, 1947).
7. Dr. J. C. Chatterjee, M.A., D. Litt., M.L.A. (Central) 10-A, Cavalry Lines, Delhi. (1st February, 1947 to 31st October, 1947)

**Twenty-third Annual Meeting of the Inter-University Board of India held at Cuttack from 1st. to 2nd December 1947.**

**PROGRAMME**

**SUNDAY, THE 30TH NOVEMBER, 1947.**

11 A.M. Meeting of the Standing Committee in the Ravenshaw College, Assembly Hall.

**MONDAY, THE 1ST DECEMBER, 1947.**

11 A M to 1 P.M. Group Photograph.  
Speech of the Vice-Chancellor of the Utkal University requesting His Excellency the Chancellor to inaugurate the meeting of the Board.  
Inaugural address by His Excellency the Chancellor, Utkal University.  
Speech of the Chairman, Inter-University Board, India.  
Business Meeting  
1 P.M. to 2 P.M. Lunch.  
2 P.M. to 4 P.M. Business Meeting.  
4-15 P.M. Garden Party by His Excellency the Chancellor of the Utkal University, at the Government House.  
8 P.M. Dinner at the Rotary Club, Cuttack.

**TUESDAY, THE 2ND DECEMBER, 1947.**

9 A.M. to 12 Noon Business Meeting.  
12-00 to 12-30 P.M. Lunch.  
1 P.M. to 7 P.M. Trip to Bhubaneswar, Lingaraj and other temples, and Khandagiri.

**WEDNESDAY, THE 3RD DECEMBER 1947.**

2-30 P.M. Convocation of the Utkal University.  
4-15 P.M. Tea by the Vice-Chancellor, in the University Compound.

**THURSDAY. THE 4TH DECEMBER 1947.**

7 A.M. to 7 P.M. Trip to Konark (Black Pagoda).  
8 P.M. Dinner by the Hon'ble Prime Minister,

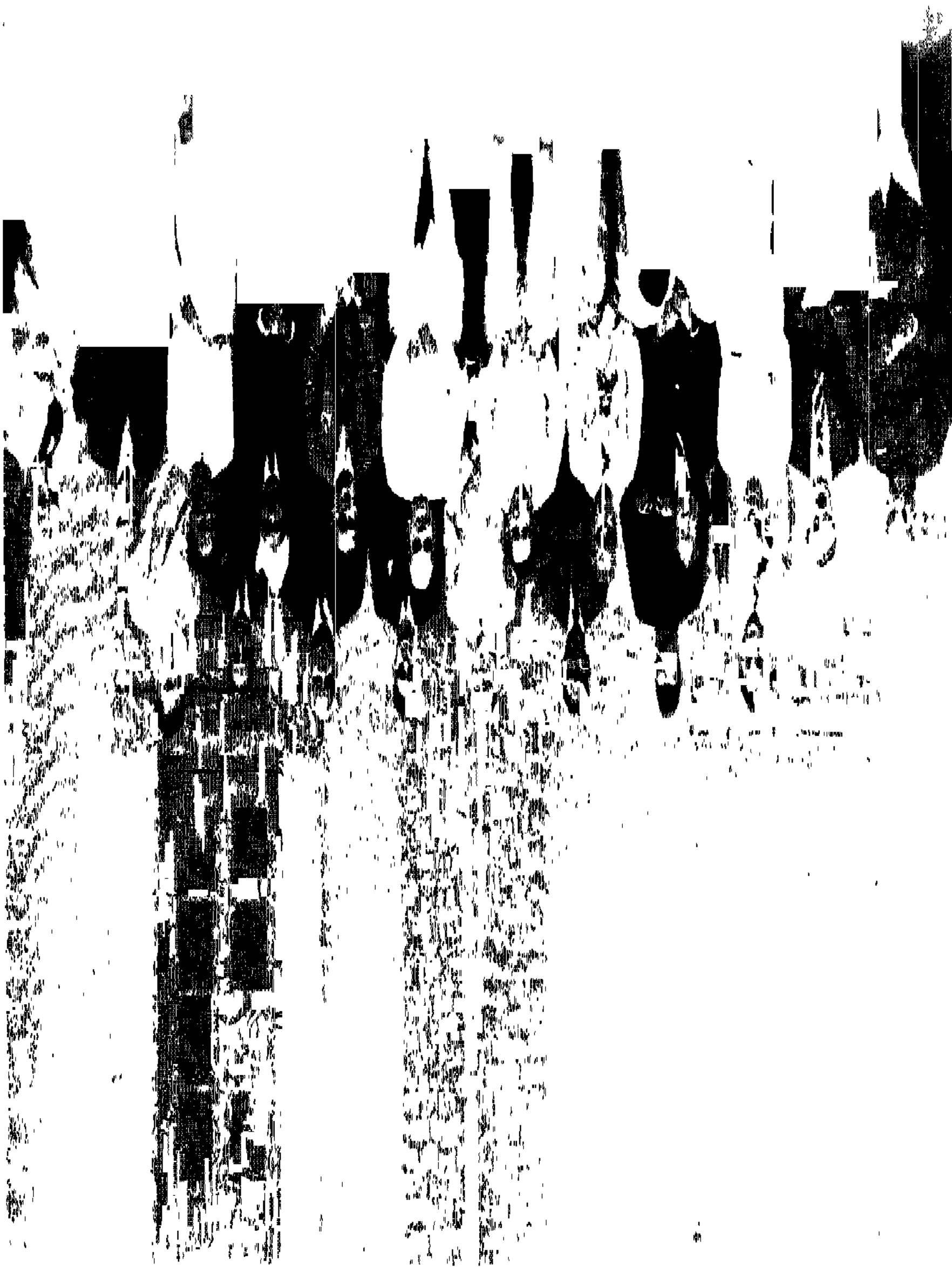
**FRIDAY, THE 5TH DECEMBER 1947.**

7 A.M. to 8 30 P.M. Trip to Puri.



UNDER THE AUSPICES OF THE UTKAL UNIVERSITY.

*The 1st December, 1947.*



*First Row.*

1. Pt. K. L. Dube (Nagpur). 2. Dr. I. W. Jennings (Ceylon). 3. Hon'ble N. Kanungo (Minister, Orissa).  
4. Dr. C. R. Reddy (Andhra). 5. Dr. P. Parija (Utkal). 6. Hon'ble H. K. Mehtab (Premier, Orissa). 7. H. E.  
Dr. K. N. Katju (Governor, Orissa). 8. Prof. N. K. Sidhanta (Lucknow). 9. Sir A. L. Mudaliar (Madras).  
10. Hon'ble N. K. Choudhury (Minister, Orissa). 11. Dr. N. P. Asthana (Agra). 12. Mr. M. Rathnaswamy  
(Annamalai).

*Second Row.*

1. Mr. G. C. Satpathy (Registrar, Utkal). 2. Sir C. P. N. Sinha (Patna). 3. Mr. K. Zachariah (Member, F.P.S.C.).  
4. Mr. H. C. Papworth (Travancore). 5. Mr. M. Sultan Mohiyuddin (Mysore). 6. Mr. W. R. Puranik (Member,  
F.P.S.C.). 7. Dr. G. S. Mahajani (Rajputana). 8. Dr. D. M. Sen (Govt. of India).

UNDER THE AUSPICES OF THE UTKAL UNIVERSITY,

THE UNIVERSITY OF UTKAL, CUTTACK, INDIA.

**Proceedings of the Twenty-third Annual Meeting of the Inter-  
University Board of India, held at Cuttack on 1st and 2nd  
December, 1947.**

**LIST OF THOSE PRESENT.**

1. Prof. N. K. Sidhanta, M.A., ( Cantab ) (Lucknow) (*Chairman*).
2. Dr. C. R. Reddy, M.A., (Cantab), D. Litt, M.L.C. (Andhra).
3. Sir. A. L. Mudaliar, B.A., M.D., D.Sc., F.R.C.O.G., F.A.C.S. (Madras).
4. M. Ruthnaswamy Esqr., M.A., (Cantab), Bar-at-law, C.I.E.  
(Annamalai).
5. Dr. I. W. Jennings, D. Litt., LL.D. (Ceylon)
6. H. C. Papworth Esqr., M.A., O.B.E. (Travancore).
7. Dr. P. Parija, D Sc., O.B.E., I.E.S. (Utkal).
8. Sir C.P.N. Singh, M.A., C.I.E., M.L.A. (Patna).
9. M. Sultan Mohiyuddin Esqr., M.A., LL.B., M. Ed. (Mysore)
10. Dr. N.P. Asthana, M.A., LL.D., C.I.E. (Agra).
11. Pandit K.L. Dubey, B.A., LL.B., M.L.A. (Nagpur).
12. Dr. G. S. Mahajani, M.A., Ph. D. (Rajputana).

**REPRESENTATIVES OF THE GOVERNMENT OF INDIA.**

13. Dr. D.M. Sen M.A., Ph. D., O.B.E., Deputy Secretary to the Govt.  
of India, Ministry of Education.
14. W.R. Puranik Esqr., Member, Federal Public Service Commission,
15. K. Zachariah Esqr., Member, Federal Public Service Commission.

## Speech of the Vice-Chancellor, Utkal University.

YOUR EXCELLENCY,

We are glad that the Inter-University Board has accepted our invitation to hold their annual meeting under the auspices of the Utkal University. Although our University is only four years old, our Colleges are much older and we have had Universities in the past. According to scholars not far from this city, there was a Buddhist University at Ratnagiri, Udayagiri and Nalitigiri to which visitors came from all parts of the world. Even upto the present, Utkal has kept up the tradition of sanskrit learning at centres like Puri and Khandapara.

It is not of much use to look back to the past except that the past heartens us to look to the future with confidence. In times of transition like the present, one naturally thinks of the future. Dissatisfied with the present system of education people are already thinking of the future system of education in free India. Reorientation of our education is a pressing problem. This meeting of the Inter-University Board is very important from this standpoint, as it is their first meeting after the participating countries, namely, India, Pakistan, Burma and Ceylon have won their freedom. The Board's deliberations ought to guide the future policy of education in the countries I have just mentioned. I am sorry some Universities have not been able to send their representatives but to those who have found time to come we extend a hearty welcome. We hope their stay will be as comfortable as we can make them and they will carry a pleasant memory. The Syndicate and myself are grateful to Your Excellency's Government in general and to the prime Minister in particular for their generous help extended to us.

Now I request Your Excellency to inaugurate this important session of the Inter-University Board.



**Inaugural Speech of His Excellency Dr. Kailas Nath Katju  
M.A., I.I.D., at the Inter-University Board meeting on  
Monday, the 1st December 1947.**

Members of the Inter-University Board, Ladies and Gentlemen,

Speaking on my own behalf and as Governor of Orissa and as Chancellor of the Utkal University, it is my very agreeable duty and a great pleasure and privilege to welcome you to this part of India. Orissa is at the present day administratively a small province, but its people are of ancient lineage and can look back upon a past of great fame and achievement. The old Utkal occupied all those vast lands from Suvarnarekha in the North to Godavari in the South and from the eastern sea far into the West and its kings and people continued to enjoy the fruits and blessings of independence up to comparatively recent times. The Kalinga Desh of old has earned an imperishable place in recorded history because it was the gallant resistance of its people and the resultant great slaughter and dispersal of lakhs of men, women and children which ultimately melted the heart of its conqueror the great Emperor Ashoka and moved him to paint in deathless language the horrors and miseries of war, to renounce for ever force as an instrument of national policy, and to forsake the paths of war for the paths of peace and goodwill and to prefer a victory achieved by Dharma as against a victory achieved by force of arms. So long as the name of Ashoka will remain enshrined in human memory, so long will Kalinga Desh continue to be remembered by all mankind. I am glad that you found it possible to accept the invitation of the Utkal University—the youngest of your fraternity—to hold your this session at Cuttack. This young University will profit greatly by your advice; and the presence of so many learned and distinguished men, so justly famous in the realm of education, will be, I am sure, a source of inspiration and encouragement to the teachers and scholars of Utkal. But may I respectfully say that you in your turn may find your visit to this Province both interesting and instructive in a variety of ways. In the domain of Art and of Sculpture and in the world of Archaeology I think Utkal occupies a deservedly high place. Please do not imagine that I am singing the praises of this beautiful land out of a new infatuation recently born of political exigencies. That is not so. Mine is an old love affair which began when I was much younger in years, quarter of a century ago, and this Utkal, this charmer so old and yet ever young, fascinated me with her charms at first sight, and since then I have been a devotee not only at the feet of the great

Jagannath, the Lord of the Universe, but also of the ancient temples, the sculptures, the carvings and the antiquities of this land called rightly by our ancestors as the Land of the Gods. A singular air of peace and tranquillity. you will please believe me, rests on the countryside of Orissa, and if it had not been neglected in the past few hundred years, it would have become justly famous, not only for its sacred temples and sacred tanks, but also for the beauties of its landscape and for the salubrious, gentle and mild climate of its various health resorts like Jagannath Puri, and Gopalpur, Bhubaneswar and Jajpur. I imagine that in spite of your preoccupations with a heavy agenda, you will be able to visit some of our magnificent sites, the marvellous Stone Temple at Konarak, and the beautiful caves at Khandagiri and Udaigiri, and wonderful temples at Bhubaneswar, but I genuinely wish that in these pleasant days, when Orissa is at its very best, you had been able to spend some more time in our midst, and enjoy, in particular, the sea-bathing on the sea beach at Puri which, please take it from me, is definitely unsurpassed for its natural loveliness and for its god-given amenities in India, if not in the world.

And when I think of the tribulations and suffering which has been the price of our liberty and which people in other parts of India have been called upon to pay, I am tempted to quote words of Mr. Horace Alexander in the "Harijan": 'Black clouds still fill parts of the Indian sky but light comes out of Orissa. May the light overcome the darkness.'

This Board was established in 1926 so that it may act as an Inter-University organisation and Bureau of information and facilitate co-ordination of University work, and serve as an authorised channel of communication. There were other equally useful objects such as the arrangement of Indian Universities' representation at international conference and exchange of Professors among Indian Universities *inter se*. You have been meeting regularly since 1926, and I imagine that in the old order of things, the Board by its deliberations and by its advice has contributed notably to the advancement of education, and of technical and scientific research in India. But during the last two years we have had an immense revolution in India. What John Morley thought in 1907 was not even humanly conceivable, something which his imagination could not even pierce, has come to pass, and India has become independent and a free State. It is calamitous that the transfer of power, contrary to our fondest expectations, has not been peaceful, but has been accompanied by great disorder and bloodshed in certain parts of India. The broad fact, however, stands out that we are now a free Nation, completely at liberty to chalk out a

course of our own for our national advancement. I respectfully suggest that this Board should take this stupendous fact into its consideration and should, if it finds necessary, even enlarge the scope and ambit of its deliberations and its activities. All these years the Indian mind has been working in a groove. India has been politically, economically and morally overwhelmed by the British connection, and we have been tempted to see and examine all problems through eye glasses of a particular tint. The very fact that I am addressing you here in the English language, which is neither your mother tongue nor mine, is proof of this conquest of the mind by the British people over India. We have shaken off political domination of the British, we have now also to shake off their moral and cultural domination. Take this very case of language. It has been exercising my mind much these days ever since I came to Orissa. I am not so far sufficiently acquainted with the Oriya language to talk with fluency or to read and write it with ease. I like, however, to meet the common people, both educated and uneducated, in the cities and the villages of Orissa. I would rather not speak to them in English; I don't like it. It is almost a symbol of our denationalisation. At the same time it cannot be gainsaid that the English language has, as a result of our association with the British now for over 150 years, become in wide circles almost a *lingua franca* of the people. Not only has it become the language of learned intercourse between Professors of Universities, but also the language in which people talk to each other, and brother writes to his brother, and the wedded couple write the most intimate letters to each other in the English language. Never shall I forget the remarks of a British Judge who had recently come out on the Bench of the Allahabad High Court. He told me with a genuine air of utmost bewilderment, "Dr. Katju, I would never have believed it had I not seen it, read it with my own eyes. I find that among the educated classes in India husbands and wives often correspond with each other in the English language. I cannot conceive of an example of a greater national degradation". I felt humiliated, and I had no ready answer to this comment. So far has the English language penetrated our national and our private life.

Now the question arises, what are we to replace the English by. I am not now here thinking of the use of English in international gatherings, the use of English as an instrument for access to the great literatures and scientific treatises of the great western countries. Let the Indian Universities by all means encourage the acquisition of knowledge not only of the English but other western languages like Russian and French and Spanish and Chinese—these are the five languages now spoken at the U.N.O.

Assemblies. But I am thinking here of the language which should be used for inter-Provincial exchange of thought and intercourse between the peoples of different parts of India. We must have a national language, and that language must supplant the English language in the place which that language occupies at present in our national cultural economy. This is important. English is not only read but it is spoken. The Universities must arrange for such instruction in the national language that the people may not only write that language correctly with distinction, but also speak it with ease and fluence, just as you and I talk to each other in the English language. This facility of expression and of speech cannot be acquired by merely learning a language in the class rooms. To all Americans and even the British people an English-educated Indian is a surprising phenomenon. Americans can never conceive how Indians can talk English so well, much better than the Americans themselves. They do not know that an Indian child begins learning English from his infancy and that his parents, his teachers encourage him to speak English from his earliest days in the class rooms. The better the English he speaks, the greater he is made of by his schoolmates, by his parents, by his relations and by his teachers. We must develop the national language with as great keenness and devotion and effort as we used to devote so far to the acquisition of the English language. For the development of this national language as also for the promotion of national solidarity we must have a powerful national language Press throughout all the provinces and States of India, on the lines of the present. And it should be a matter for your consideration whether this national language should not be the medium of instruction in all our Colleges and Universities, and even in the upper classes of our high schools.

That brings me to another important problem created by the strong tendency these days in every province towards the use of the provincial language in the Provincial Legislatures and in the superior Law Courts and the higher Government Departments as well as the medium of instruction in Schools and Colleges. If not checked in time, these present-day thought-currents may indeed prove fatal not only to the development of a real national language in India but also to the development of an all-India legal and administrative system. It is imperative in the national interest that people of one province should be able to follow substantially the proceedings in the Legislatures of the neighbouring provinces. So far English has been the official language of all our High Courts and every lawyer knows how the interpretations of our all-India Code and Enactments by the various High Courts have gone to build up a sound Indian

Jurisprudence on an all-India basis. Care must be taken to enable the legal profession in India to work on the present lines so that there may be uniformity in the administration of justice and the interpretation of the Codes in the national language may continue. And I go further and say that our national language should not be limited to intercourse for inter-provincial purposes. It is desirable in the national interest and in the interest of the development of the language itself that it should be used as widely as possible by the people of India for, if I may use the expression, domestic purposes also in their own province. In fine, I would strongly recommend that just as English was the official language in the Law Courts and under the Government of India Act in the different Legislatures and in Government administration departments, so also the Indian national language—Rashtra Bhasha—should be made the official language to the same extent. Unless you do so, I see great difficulties in the development of an Indian national language as a vehicle for exchange of ideas and for national Communion and intercourse. The aim should be not merely knowledge, but also the acquisition of proficiency in the national language by the largest number of people imaginable.

That brings me to the very difficult question of what the national language should be. I know this is very delicate ground and I must tread it cautiously with great discretion. The labours of learned men, litterateurs and poets have built up provincial languages which have great traditions behind them. Leaving Hindi and Urdu aside, the modern Bengali, Gujarati, Marathi, Oriya, Tamil and Telugu and other languages have cultural treasures of which their inheritors are justly proud. This is just the problem which I would like this eminent Board to consider in its dispassionate and far-sighted wisdom.

As a layman, if I were bold enough to hazard an opinion, my first impulse would be to consider the claims of Sanskrit as our national language. Sanskrit is the mother of all the provincial languages of India, which do not derive their inspiration from Arabia and Persia. Provincial vocabularies have drawn vastly upon the storehouse of Sanskrit words and phrases. And then all people do Sanskrit reverence. All our sacred books on law and religion, and all our literature and text books on Art and Science and Medicine and technical subjects such as architecture are in Sanskrit. The adoption of Sanskrit will not raise any Provincial jealousies. Indeed it will be widely welcomed because Sanskrit is already so familiar, every year an every-growing number of people, boys and girls, read Sanskrit in Schools and Colleges. The script of most of the provincial languages is based on variations of Devanagiri in which Sanskrit is written and Devanagiri is well known throughout India. The Sanskrit

starts therefore, with definite advantages in its favour. But then it is said that Sanskrit is not a living language; it ceased to be a spoken language centuries ago, and it is said it will be impossible now to revive it; I am not so sure of that myself, but of course I am not competent to pronounce an opinion upon this matter. I have heard many people talking and speaking in Sanskrit with the greatest ease and confidence. Then it is said that Sanskrit is difficult to learn and to impart knowledge of. I am not sure of that either. But these are all points worthy of your careful consideration. I am sure, however, of one thing that if Sanskrit were to become gradually the language of our superior law courts, of our Laws and Regulations, of our State Documents, of our great State Departments, it will make a wonderful appeal to and raise enormous enthusiasm among the vast teeming millions of this country, and be in itself a powerful unifying factor in our national life. It will forge a link with our ancient culture, and the wider diffusion of Sanskrit as a national language will in its turn prove a powerful instrument for the development of the great provincial languages in India. The progress will be smooth because all sense of rivalry and jealousy will be completely absent.

If what I plead for is not feasible or is not practical politics, then you will have to choose between other languages, not only for the purpose of intercourse in the market places of India, but for intercourse among learned men, as medium for instruction in arts and sciences, for drafting laws and regulations, and for conducting legal proceedings and debates in our supreme law courts and Legislatures. A national language must be rich in its contents, must, by its allusions, its similes and metaphors, be capable of arousing a sense of national pride in those who use it. The question of script is an important factor, and the fact that the Devanagiri script is already familiar to the vast masses of population through their Sanskrit literature is one of prime importance. In Madras and Malabar, in Utkal and Bengal, in Gujarat and Maharashtra Devanagiri script is equally loved everywhere and any other script would be regarded as a strange innovation.

Apart from the question of enrichment of the national language by the coining of new words or importation of words and phrases from other languages I would draw your attention to another important aspect which is sometimes overlooked. The prevailing illiteracy in India is one of the great hindrances to national progress. But so far out very limited literacy has been to a very large degree confined to males, and for secular purposes of business and employment men may be willing or compelled to

learn what the State may direct them to do. But now we are looking forward to the widest possible education of our women and I very much doubt whether women would willingly undertake to learn a language or a script which is sought to be imposed upon them and which is foreign to their own culture and their own tradition. In order to develop a national language it would be wise to follow the path of least resistance.

I apologise for detaining the Board over this matter of national language, but it occurred to me that you could not possibly act efficiently as an Inter-University Organisation and Bureau of Information and serve as an authorised channel of communication and facilitate co-ordination of University work unless this important question of national language was considered by you carefully, and your opinion will naturally carry weight with the Government and people of India.

A glorious chapter is now opening in India and Ceylon, and the Universities should do their utmost to create a sense of pride in young-men and women in their past. Indian philosophy and culture and Indian religious thought have made a great contribution to human wisdom, and the younger generation ought to learn that they are the inheritors of a great heritage. In this view I suggest that the Universities should undertake more intensive work in the regeneration of the past. Great cultural wealth lies buried under the soil. While our scientists and technicians labour to win and create new wealth from the great mineral resources with which nature has so lavishly endowed India, it should also be the endeavour of our Universities to unearth once again the great marvels in sculpture and in art and handicraft which our ancestors wrought thousands of years ago. I would strongly favour the creation of Chairs of Archaeology in our Universities, and plead for a sustained endeavour towards Archaeological development of India. We owe much to the pious exertions of many labourers in this field during the last 150 years, but owing to the paucity of funds and lack of public interest and the result of foreign domination, only a beginning has been made, and much remains to be done. I have no doubt that if the Universities take the initiative, the response from Governments both at the Centre and in the Provinces, and also from the public will be immense and soon great progress will be made.

You have a heavy agenda before you, and I shall not presume to anticipate your views upon it. Questions of reorientation of educational policy always afford fruitful topics of discussion. It is curious that no generation seems to be satisfied with the education it has received. The longing to shatter the whole system into bits and to rebuild it nearer the

heart's desire has been the longing of every generation ever since society considered it to be its duty to look after the education of its children. Now that India has stepped into a freer life, this vast problem, I presume, shall engage your attention deeply as it is already engaging the attention of the Central and the Provincial Governments everywhere in India. Let me just express one hope. Uptill now the Universities of India were more or less in public esteem official bodies. The Universities had been gradually achieving a measure of autonomy, but yet the leading strings were pulled by the higher authority which was vested in foreign rulers, and the result was that the Universities did not inspire either in their alumni or in the public at large that affection and that reverence which is due to a temple of learning. Every University complains of lack of endowments, but the root cause of that difficulty lies in public indifference. Now that foreign domination is gone, the Universities should become in every sense of the word national properties, genuine temples of learning and scholarship, and I am sure that in future they will readily attract devotees in as large a number as our sacred and ancient temples in India.

Gentlemen, in conclusion, I once again welcome you to Orissa and I hope that you will take away pleasant memories of your stay amongst us.



**Speech of Prof. N. K. Sidhanta, Chairman, The Inter-University Board, India.**

**Your Excellency, Members of the Inter-University Board, Ladies and Gentlemen.**

From every platform the platitude about increased responsibilities on account of freedom is being expressed and one feels apologetic in repeating the statement but hopes to be excused in this that there are implications of the platitude on which we have now seriously to ponder. This is the first meeting of the Inter-University Board since the dawn of freedom in India and we shall be failing in our duty if we neglect this opportunity of re-assessing the ideals and objectives of University education. We have often heard of the threefold aim of higher education,—training for the professions, contribution to knowledge and transmission of culture. Our universities had so far been pre-occupied mostly with the first of these objectives. During the last 25 years some, at any rate, of the Indian Universities have attempted to encourage research and have added their quota to knowledge but one may seriously question our contribution to culture. Culture is too often taken to be a smattering of ancient learning which becomes an instrument of social and class distinction, but it is something more than that : "It is a study of perfection; it moves by the force not merely or primarily of the scientific passion for pure knowledge, but also of the moral or social passion for doing good." Culture then is the system of ideas by which an age lives. Each human being conducting himself through life has frequently to indulge in self-justification : this implies ideas relating to the world and one's own place in it. There are different levels of these ideas: those at a lower level characterise the so-called backward people living a life which is difficult and toilsome; the live ideas at a superior level constitute the culture of the age. In the present age such ideas come at least partly from science but culture is not to be identified with science no more than it is to be identified with the so-called Humanities.

If education looks to the good of man in society we have to think of the traits and characteristics of mind which should be fostered. One cannot doubt that the abilities this education seeks to foster are: "to think effectively, to communicate thought, to make relevant judgment, to discriminate among values." Logical thinking enables one to indulge in inductive and deductive reasoning, to discover a pattern of relationships, to analyse problems into component elements and synthesise them. Star-

ting with logic one must proceed to broad mental skills in the handling of terms and concepts, in understanding the implications of facts, in utilising techniques beyond those of exact mathematical reasoning. Communication is inseparable from effective thinking for in order to speak clearly one must have clear ideas. In order to make relevant judgments a student must be able to utilise his whole range of ideas in an area of experience, in the application of theories to actual facts. Choice of values implies not only knowledge of values but dedication of oneself to them, embodying them in one's actions, feeling and thoughts. Our universities today are confused in their attempt to take up a definite position with regard to these functions. We find difficulties in adopting the means of communication, the medium of language through which ideas are to be conveyed. Depending on authority as we have done for generations we find it almost impossible to inculcate the capacity for effective thinking or making relevant judgments. Discrimination among values is thus almost impossible for the average product of our universities.

We have got to make good these deficiencies but while formulating practical proposals for effective reform of university education we cannot but think of the nature of the State for which we shall train our young men. University education cannot be dissociated from the problem of building up the society and the State. In its work the universities have to think first of the essentials of our national life, of our traits of mind and ways of looking at the man and the world. We cannot reject our ancient heritage but we have to adapt it to the changing conditions of the world. If it is a great democracy that we are attempting to build up, the best traits and outlooks must be shared among all the people and not simply a privileged few. But there are great differences among the people due first to ability and next to opportunity. There are also differences of interest and will-power. We have to introduce unity in diversity, to adapt education to "different ages and above all differing ability and outlook that it can appeal deeply to each, yet remain in goal and essential teaching the same for all."

It is a difficult task we have before us and it will involve joint action and coordinated planning. There are numerous dangers to which hasty reform will expose us. There is the danger of regionalism and parochialism in the adoption of provincial media of instruction; there is the risk of narrowness of outlook in the approach to historical and social problems. While each university has a special duty to cater to the needs of the area in which it is located, it has at the same time a duty to

the whole nation, to the country which it has to serve. In order that this may be effectively done the Inter-University Board has to adopt practical steps in the near future. We shall have a conference of Indian universities sometime in the course of next year. The work of this conference has got to be planned by the Board, its agenda prepared in such a way as to focus interest on first the essential problems of university education including its relationship with secondary education and secondly the problems of the immediate future arising out of the increased responsibilities in every country. We hope to achieve something through our limited efforts if we are guided by the spirit of prayer:

*Tamasa Ma Jyotirgamaya.*

## RESOLUTIONS.

I. To consider the following resolution No. 6 of the Standing Committee adopted at its meeting held on 21st March, 1947, on the question of mutual recognition of examinations in Engineering and Technology conducted by Indian Universities and the Institute of Engineers ( India ), foreign Universities and Professional Associations.

“The Committee considered resolution No. 3 of the Inter-University Board held at Jaipur in the matter of obtaining information from foreign Universities and Professional Associations on the question of mutual recognition of examinations conducted by Universities and the Institute of Engineers. In this connection, the Committee also considered letter No. F. 12-69/46.E. III (P), dated 3rd March, 1947 from the All-India Council for Technical Education, Government of India on the subject and resolved that the action of the Government of India be noted and that the necessary information would now be collected by the said Committee.”

A. L. Mudaliar, the Convener of the Joint Committee constituted by the Government of India and the Inter-University Board reported that the report of the said Committee could not be ready as the members could not attend the meeting.

Resolved that the matter be dropped.

II. To consider the following resolution No. 5 (a) of the Standing Committee adopted at its meeting held on 21st March, 1947, on the ways and means for adoption of Indian languages as media of instruction in Indian Universities and its appropriate technical terms.

“As it was understood that a new Committee was set up for the purpose by the Central Advisory Board, the Standing Committee did not wish to express a definite opinion until it had an opportunity to review that report.”

Resolved that the consideration of the matter be deferred till the receipt of the report from the Government of India.

III. To consider the affiliation of King George VI, Royal Indian Military College, Bangalore, to the University of Madras.

(GOVERNMENT OF INDIA, DEFENCE DEPARTMENT)

Resolved that the matter be recorded.

IV. To consider the inclusion of subjects like industrial relations in the syllabus for degree courses.

(GOVERNMENT OF INDIA, LABOUR DEPARTMENT)

*Appendix - A.*

It is understood that these subjects are already in degree courses of some Universities.

Resolved that the Inter-University Board recommends to all Universities the inclusion of these subjects in one or other of the degree courses.

V. (1) To consider the question of including 'Cost-Accounting' as an optional subject in B.A. and B. Com. examinations of Indian Universities.

(2) To consider the recommendations of the Committee held in New Delhi on 25th November, 1946, on Air-Training in relation to the Educational system of the Country, which have been endorsed by the Central Advisory Board of Education in their 13th Annual Meeting held at Bombay in January, 1947. Special attention of the Inter-University Board is drawn to para No. 7 of the Report in regard to the following.

(a) Selection of teachers from Secondary Schools and Intermediate Colleges for short courses of instruction in Aeronautics at approved centres when such centres are established.

(b) Introduction of Aeronautical science as an optional subject in the Science and Engineering Courses in Universities.

(3) "To consider the question of encouraging University students to undertake various forms of social service".

(GOVERNMENT OF INDIA, DEPARTMENT OF EDUCATION).

(1) Resolved that it be forwarded to the various Universities with the recommendation that the subject be included as an optional subject in a degree course.

(2) (a & b) Resolved that the subject matter be referred to the Government of India for a statement of their present policy on the matter of introducing Cadet training in all its aspects from the High Schools to the Colleges. The Board recommends to

the Government of India that it is desirable that a speedy action be taken towards promoting Cadet training in Schools and Colleges.

- (3) Resolved that the Board recommends to the Universities to encourage Social service by University students on a voluntary basis and with a view to organising such services in an efficient manner, the Board is of opinion that the necessary finances be provided by the Central and Provincial Governments.

VI. To consider the following Resolution No. XLII of the proceedings of the 14th Meeting of the Governing Body of the Council of Scientific and Industrial Research, held on 25th August, 1947.

*“In view of the fact that many Universities would now be imparting instruction in Indian Languages, the Council of Scientific and Industrial Research being a premier Institution interested in Scientific personnel required for research work, felt that steps should be taken for maintaining certain minimum standards of higher education imparted in the country. With this view the Governing Body decided that the Director of Scientific and Industrial Research be authorised to invite the attention of the Inter-University Board to the necessity of the Inter-University cooperation and the maintenance of minimum standards of higher education imparted by Universities or in Institutions subject to the rules and regulations of the Universities”.*

Resolved that the matter be referred to the proposed University Commission.

VII. To consider letter No. F.5-11/47.E.II, dated 20th November, 1947, along with a copy of the amended constitution of the Central Advisory Board of education forwarded by the Secretary to the Government of India, Ministry of Education, New Delhi, for the nomination of a successor of Dr. M. Hasan, Vice-Chancellor, University of Dacca, on the Central Advisory Board of Education for a term of 3 years ending on 30th September, 1950.

Resolved that Mr. M. Ruthnaswamy M. A. (Cantab), Bar-at-law, C.I.E. Vice-Chancellor, Aunamalai University, Annamalainagar, be nominated as the successor to Dr. M. Hasan in the Central Advisory Board of Education.

VIII. To consider letter No. F.1-28/47.E.III (P), dated 20th November, 1947, of the Secretary, All India Council for Technical Education in the Ministry of Education, Government of India, communicating the Syllabus of the All India Diploma Courses of Engineering and the request of the Coordinating Committee of the All India Council for Technical Education recorded at its meeting held in May 1947 to the Inter-University Board for considering the position of the All India Diplomas and Certificates instituted by the Council Vis-a-Vis University Degrees in Engineering and Technology, the desirability of reviewing the position of Technical education in the Universities, so as to facilitate the flow of students between Universities and Higher Technical Institutions proposed to be set up by the Government of India for advanced studies and to appoint for this purpose a Committee to collaborate with a small Committee of the All India Council for Technical Education.

#### Appendix—B.

Resolved that different Universities having Engineering faculties be requested to consider the syllabus and scope of examination etc. of the proposed Diploma Course in Engineering.

Resolved further that on receipt of the opinions from the Engineering Faculties of the Universities, the Standing Committee of the Board be authorised to consider the suitability of recognition of the said Diploma Course, and for this purpose the Committee be further authorised to co-opt members, if necessary, for taking technical advice.

IX. Resolved that the Government of India be requested to place the total amount available to the Government under the Fullbright Act at the disposal of the University Grants Committee for distribution to the Universities for developing Postgraduate work and Research.

X. To consider the following proposition sent by the University of Calcutta :—

“The Inter-University Board recommends that the development of fundamental research in all Universities and Research Institutes in India in all science and arts subjects including Economics and Politics should be a responsibility for the Central Government of India”.

Resolved that the Board is of opinion that the Universities should do all that is possible to develop research in fundamental and applied

sciences and in Arts and that with a view to enable the Universities to function at a high level for the organisation of these researches, the Central and Provincial Governments should sanction liberal grants. Further resolved that the Inter-University Board appreciate the efforts which are being made by the Central Government for promotion of research in the Universities.

A XI. To consider the desirability of adopting sound methods for the teaching of social, industrial and various other branches of Applied Psychology in all Universities, and forming, for this purpose a small Committee of experts to go through the question of revision of syllabuses of Psychology, making provision of studies not only in special psychological problems arising out of new situations but also of basic psychological data relating to the people of different provinces, hill tracts and non-regulated districts, as like other sciences, Applied Psychology is bound to play a very important part in the future task of social reconstruction and industrial reorganisation.

( CALCUTTA UNIVERSITY )

Resolved that the attention of the Calcutta University be drawn to resolution No. XXXIX passed at the Annual meeting of the Inter-University Board held at Hyderabad in 1943:—

“The Board recommends that a Central Institute of applied Psychology be established by the Government of India at Delhi in close association with the Universities.”

XII. To consider the following propositions sent by the University of Calcutta :—

- 1 (i) To investigate the standard of M. Sc. Examination of Aligarh University in relation to that of other Indian Universities as it has been noticed that a number of students who had a poor academic record upto their B. Sc. in other Indian Universities get a 1st class in their M. Sc. Examination when they migrate to Aligarh and appear at the Aligarh University, the matter being of considerable importance in view of the fact that Government Overseas Scholarships are usually open to 1st class M. Sc.s of Indian Universities who are presumed to have approximately equal qualification.



- (ii) To consider the question of a uniform course of studies, at least as regards the compulsory papers, for the Honours Degree and M.A. and M.Sc. Examinations of the different Universities within the Indian Union.
- 2
- (i) To consider the question of starting one Military College in every province within the Indian Union.
  - (ii) To consider the question of 'raising a volunteer force for Indian Defence by compulsory military training in Colleges and Universities.'
  - (iii) To consider the question of 'secularisation of education by dropping all denominational names for academic Institutions and courses of study) To give effect to the suggestion, the names Hindu University, Islamic Philosophy etc. be dropped and other suitable names substituted in their places such as National University, Arabic and Persian Philosophy etc., and the option which is allowed at present between Indian and Islamic Philosophies be abolished and a single compulsory paper entitled Oriental Philosophy (including Indian, Arabic, Persian and Chinese Philosophy) be substituted in its place.
  - (iv) To consider the question of 'uniform fees for setting and examining papers for the corresponding examinations of the different Universities within the Indian Union?
  - (v) To consider the question 'whether paper setters should be appointed as a rule from Universities other than the one for which the papers are set.'
  - (vi) To consider the question of 're-organisation of non-Government Colleges and the desirability or otherwise of having more than one Government College in a Province.)
- 3
- To recognise the Indian Agricultural Research Institute Diploma as equivalent to the M. Sc. degree of the Indian Universities, provided a thorough general training in all branches of Botany (including theoretical and practical) be given to the students during the course of the first 15 months at the Indian Agricultural Research Institute.

- 4 To consider the question of establishing co-operation and coordination between the Universities in India and the two separate departments of Archaeology, if constituted by the Indian Dominion and Pakistan, in order to secure an All-India importance of historical sites.
- 5 To consider the question of introducing the teaching of physiology as a biological science subject in the schools and colleges, at least upto B. Sc. standard, as on its knowledge depend the health and development of the individual and the greatness and prosperity of the nation.
- 6 To consider how far it is desirable and practicable to organise the undergraduate students for participation in the "outside interests" of college life, e.g. Physical exercise, Social life and Intellectual interests.
- 7 (i) To consider the suggestion that the Registrars of Indian Universities should be informed that geography plays a very important part in planning and proper utilization of National resources; hence post-graduate department of geography with well-equipped laboratories should be established.
- (ii) To consider the question of revising the present M.A., and M. Sc. Geography syllabuses of different Universities, so that proper emphasis may be given to the applied part of geography.
- 8 To consider the suggestion that every effort should be made here and now to give effect to the following proposal rather than refer it to the Universities Commission as envisaged in resolution No.32 of the Inter-University Board adopted at its Jaipur meeting held in December, 1946, as under the many postwar schemes of development now under consideration of the Central and Provincial Governments, a heavy demand on the Universities for properly trained personnel on the subject is expected soon :-

"In every University laboratory, admission and seats should be so distributed as to ensure a proper proportion among students of pure chemistry specializing in the three different branches of the subject, viz., Inorganic, Organic and Physical, so

that there may not be any dearth of trained chemists needed for efficient teaching and to develop different types of the basic industries in the Country.

- 9 To consider the suggestion that steps should be taken to start as early as possible graduate and postgraduate courses in Statistics in all the Universities in view of the fact that there is a great demand for Statisticians in the various spheres of national activities and it is not possible for one or two Universities to cope with the ever increasing demand for trained personnel in the subject
- 1 (i&ii) Resolved that the matter be referred to the University Commission already proposed in resolution No. XXXII at the Annual Meeting of the Inter-University Board held at Jaipur in 1946 :-

“The Board is of opinion that it is desirable that the work of Indian Universities be reviewed and would suggest for this purpose that the Government of India should constitute a Commission on the lines of the Sadler Commission to report on the working of Indian Universities and to suggest any changes that may be deemed desirable in the light of modern conditions and changes in educational policies adopted in other countries and to suit modern requirements in India. The Board is further of opinion that the Commission so appointed should mainly be composed of eminent educationists with University experience including some eminent educationists from foreign countries”

- 2 (i) Resolved that the Calcutta University be requested to address the Government of India on the subject.
- (ii to vi) Resolved that the matter be referred to the University Commission already proposed at the Annual meeting of the Inter-University Board held at Jaipur.
- 3 Resolved that the matter be recorded.
- 4 Resolved that the matter be referred to the Central Advisory Board of Archaeology. Resolved further that the Board is of opinion that as far as possible the Headquarters of the

Archaeological centres should be located near about the Universities so as to enable the Universities to make the best use of the Archaeological work.

- 5 Resolved that the Calcutta University be requested to refer to resolution No. X of the Annual Meeting of the Inter-University Board held at Jaipur in 1946 :-

“The Board is in general agreement with the recommendation of the Sectional Committee of Physiology of the Indian Science Congress Association and commends them to the various Universities for their consideration.”

- 6 Resolved that the matter be recorded.

- 7 Resolved that the Calcutta University be informed that Geography is already a subject of study in the degree courses of most Universities.

- 8 Resolved that the matter be recorded.

- 9 Resolved that the Calcutta University be informed that Statistics is already included in the courses of a number of Indian Universities.

XIII To consider the following propositions set by the University of Allahabad:—

- (a) The question of financial difficulties of Universities and ways and means of overcoming them. It is desirable that the Inter-University Board should advise the Central Government on this matter and impress upon it the imperative need of giving financial assistance.
- (b) The all important problem of the position of the Universities in the development of the political, cultural and economic life of the Country and the new duties and responsibilities which inevitably fall upon their shoulders as a result of the establishment of Independence.
- (a) Resolved that with a view to enable Universities to open new courses of studies and to improve the existing facilities this Board recommends that the Central Government should apportion adequate grants to all Universities which may be

distributed through the University Grants Committee on lines similar to those operating in England.

(b) Noted.

- XIV. To consider the question of instituting Ph.D. degree in science as a midway stage between the M.Sc. and D.Sc. degrees. It should be awarded on the basis of two years of research work after taking the M.Sc. degree and submission of a thesis. The D.Sc. degree will be awarded after further work for two years.

(Andhra University)

The Board notes that the Ph.D. degree as an intermediate degree has been instituted in several Universities.

- XV. To consider that it shall be open to the Universities to admit students who have been expelled by any other University for their political or other activities or for being members of political bodies so long as the expulsion is not due to grounds based on moral turpitude. Students expelled should be given their transfer or migration certificates so that they might join other Institutions willing to receive them. If such a certificate is not given for any reason, the other Universities should not be bound to refuse admission.

(Andhra University)

Resolved that the attention of the Andhra University be invited to resolution No. XIV of the Annual Meeting of the Inter-University Board held at Waltair in December, 1939, to which the Board still adheres.

“Resolved that an expelled student should be given his migration certificate with the reasons for his expulsion stated thereon. It shall be competent for other Universities to admit such students, but it shall be obligatory on their part to make a reference to the University from which the student was expelled and the reply should be taken into consideration before a decision on the matter is arrived at. A convention should be established that ordinarily a student expelled from one University should not be admitted by another University.”

XVI. To consider the following propositions sent by the University of Ceylon:—

- (a) That the Universities of India and Pakistan be invited to recognise the Ceylon Government Senior School Certificate as equivalent to Matriculation.

*Appendix — C.*

- (b) That the Universities of India and Pakistan be invited to allow one year of the Intermediate course to students who have obtained the Higher School Certificate of the Ceylon Government.

*Appendix — D.*

- (a) Resolved that candidates who pass in 6 subjects of this examination and obtain credit in any 4 of them be admitted to the Junior Intermediate class
- (b) Resolved that the opinion of the Universities be invited on the subject.

XVII. To consider the desirability of having a uniform standard of age restriction for entry into College classes in all Universities

(Madras University)

Resolved that while not desiring to recommend a minimum age before which no candidate should be allowed to appear in the Matriculation examination, the Board is of opinion that the minimum age for admission to post-matriculation class be 16 in the case of Universities which have a 3 year degree course and 15 years in the case of those which have got 2 year Intermediate course followed by a two year Degree course.

XVIII Read a letter from the Registrar, University of Madras to the Secretary to the Government of India, Ministry of Education regarding difficulties that have been experienced in obtaining import license for apparatus, chemicals, equipment etc., from foreign countries required for Universities and educational institutions.

“Resolved that the Government of India be addressed on the subject and requested to grant permission for necessary importation of Scientific apparatus, equipment, chemicals and

machinery for laboratory purposes in Universities and educational institutions. The Government of India be requested that such apparatus etc., may be classed under capital goods for some years to come, as it is not possible to obtain the apparatus and equipment of the required quality and specifications from any manufacturer within the country."

Resolved further that the communication be addressed to the Hon'ble Prime Minister, the Minister in charge of Industries and Supplies and the Secretary to the Government of India, Ministry of Education.

- XIX To consider the desirability of taking practical steps for adoption of Hindi as the medium of official minutes and correspondence of the Universities in India.

(NAGPUR UNIVERSITY.)

"Resolved that the Board is of opinion that the suggestion is not practicable."

- XX. To consider the following propositions sent by the University of Bombay :—

1. That with a view to avoiding delays in the admission of students migrating from one University to another, all the Universities which are members of this Board be requested to issue instructions to their respective Registrars for expediting the issue of the necessary certificates regarding results with marks and classes, if any.
2. That this Board urges upon the Universities the necessity of taking steps to safeguard their independence from too much Government Control, and to see that in the legislative enactments of new Universities, the academic independence of the latter is preserved.
3. That this Board is of opinion that the Entrance Examinations of Universities should be controlled by the Universities themselves and the School Leaving Examination by the Government alone without any guarantee of equivalence of the latter examination to the Matriculation of the Entrance Examination of any University.

4. That with a view to avoiding inconvenience to students and facilitating recognition of the degrees and diplomas conferred by the Universities which have been recently established in Indian States and in some Provinces, both the Union of India and Pakistan, as well as in some States not yet part of either Dominion, a Committee be appointed to consider ways and means of facilitating the recognition of these new Universities and the equivalence of their degrees and diplomas on such terms and conditions as may be found necessary.
5. That in view of the decision of some Universities to adopt local media of instruction, a Committee be appointed to suggest some method of evolving a common denominator for recognition and equivalence of examination of all the Indian Universities wherever they may be located
6. That with a view to acquainting the medical students with the problems and conditions of medical rural relief in rural areas, the Board suggests :—
  - (a) that the Universities should consider the desirability of requiring their medical graduates to work for a specific period (say six months) in rural areas as 'Interns'; before being allowed to practise.
  - (b) that Provincial Governments should start various health centres in rural areas with fixed senior staff and mobile temporary staff consisting of fresh medical graduates, and
  - (c) that the Provincial Governments should further amend their medical Acts so as to make such specific period spent in rural areas a necessary condition of registration.
1. Resolved that this be brought to the notice of all Universities.
2. The Board is of opinion that it is in general agreement that autonomy of the Universities be maintained and that their academic independence be ensured. Resolved further that this principle be borne in mind when any new legislation affecting Universities is contemplated.
3. The Board is of opinion that where the School Leaving



Examination is accepted as qualifying for entrance to the University, the University concerned should lay down the conditions under which the certificate can be accepted.

4 & 5. Resolved to refer to the proposed University Commission as envisaged in resolution No. XXXII of Jaipur Meeting of the Inter-University Board held in 1946.

6. Resolved that the matter be referred to the Indian Medical Council for their opinion.

XXI. To consider the question of introducing a compulsory test for Physical fitness at the Matriculation stage of all Indian Universities.

(UTKAL UNIVERSITY )

*Appendix—E*

Resolved that the scheme formulated by the Utkal University be circulated to all the Universities for their opinion.

XXII. To consider the resolution of the Board of Technological studies of the Annamalai University :—

“The Board suggests that the B.Sc. (Tech) degree, be designated B. Tech. Degree to bring it into line with B.E. degree in this University. It is further recommended that this suggestion be passed on to the Inter-University Board that the first degree be called Bachelor in the particular subject.”

“Resolved that the matter be recorded ”

XXIII. To consider the desirability of instituting a course of M.S., M.D. and other Post graduate qualifications in various branches of medicine in every University in India which has a medical Faculty, and admitting medical graduates of other recognised Universities to these Post-graduate examinations in order to encourage research and Post graduate medical education in India.

(INDIAN MEDICAL ASSOCIATION, U.P. PROVINCIAL BRANCH )

“The Board understands that the M.S. & M.D. degrees have been instituted in certain Universities and is of opinion that post-graduate courses in different branches of medicine may

*be instituted in different Universities provided adequate facilities are available. Resolved further that it be recommended that the medical degrees of different Universities recognised by the Indian Medical Council may be accepted for the purpose of post-graduate study and examination on conditions to be prescribed by different Universities.*

- XXIV. To consider letter No. F 5/16 '47-E, dated 21st July, 1947 from the Secretary Federal Public Service Commission, inviting suggestions and comments of the Inter-University Board on the general questions of rules and particularly on a scheme of subjects for the competitive examination for recruitment to the All-India Administrative Service in place of the old Indian Civil Service.

*Appendix—F.*

Resolved that as the essay paper is a valuable test for estimating the general culture of the candidate, 100 marks be allocated for the essay and the proposed allocation of marks for compulsory subjects may be as follows ;—

English	...	100 marks.
Essay	...	100 marks
Indian Language	...	150 marks
General Knowledge	...	150 marks.

The difficulty about the examination of the essay paper pointed out in the note may be removed through having two examiners for the essay paper working independently. Resolved further that the Board is of opinion that the Federal Public Service Commission should explore the standards achieved by the candidates in different optional subjects for a period of ten years with a view of devising means of securing uniformity of standards of valuation. The Board feels that while there may be no difference in the intellectual attainments of the candidates, the achievements of candidates in certain exact sciences or languages may contribute to their preference over others of equal intellectual achievement taking certain of the arts subjects like History, Economics, Politics etc. Resolved further that the Board accepts the choice, grouping and the allocation of marks for the optional subjects as proposed by the Federal Public

Service commission and welcomes the change. Resolved further that the resolution of the Board be communicated to the Federal Public Service Commission.

- XXV. To consider letter No. 3/502, dated 16th June, 1947, of the Hon. Secretary-General of the International Association of University Professors and Lecturers, London, and the definitive Statutes of the Association and its programme in connection with the request made for the steps to be taken to permit professors and lecturers in India to join the Association in order to encourage co-operation among the Universities of the World.

Resolved that the consideration of the subject be deferred till a reply is received from the Government of India on the subject.

- XXVI. To consider the question whether the Indian Universities should give financial aid to the National Association of physical Education, India, established at Amraoti, and send nomination of their representatives on the Council when the Inter-University Board of India has its own Sports Board to organise Inter-University Tournaments and sports to which the Universities make annual contribution and representation.

(Madras University)

Resolved that the consideration of the matter be deferred till the receipt of the report of the Inter-University Sports Board.

- XXVII. Considered the position of the Universities in Pakistan vis-a-vis the Inter-University Board and in this connection read letter No. 1610, dated 13th October, 1947, and recorded it.
- XXVIII. To approve of the nominations, made by the Chairman, of Dr. P. Parija, Vice-Chancellor, Utkal University, and Syed-Ud-din Swallhay, Head of the Deptt. of Agriculture, Aligarh Muslim University, on the Standing Finance Committee of the Imperial Council of Agricultural Research for a period of one year from 1st September, 1946.

To nominate a panel of three eminent scientists from the members of the Board, each on the Agricultural and Animal

Husbandry side of the Board of Agriculture and Animal Husbandry in India, for the nomination of two scientists therefrom by the Chairman of the Imperial Council of Agricultural Research for serving on the Standing Finance Committee of the said Council for a period of one year from 1st September, 1947, and for a further period of one year from 1st September, 1948.

Resolved that the nominations made by the Chairman be approved.

Resolved further that the following persons be nominated for election of two scientists therefrom by the Chairman of the Indian Council on Agricultural Research for serving on the Standing Finance Committee:—

*Agriculture*

*Animal Husbandry.*

- |                                 |                               |
|---------------------------------|-------------------------------|
| 1. Dr. G Gopal Rao, Waltair.    | 1 Mr. K.N. Bahl, Lucknow.     |
| 2. Dr. P.V. Ramaya, Coimbatore. | 2 Dr. Syed Swallhay, Aligarh. |
| 3. Dr. P. Parija, Cuttack.      | 3 Mr. K. S. Nair, Madras.     |

The same nominations will hold good for the next term beginning from 1st September, 1948.

- XXIX. To elect two representatives of the Universities on the Advisory Board of Imperial Council of Agricultural Research in place of Khan Bahadur Mian M. Afzal Hussain, Punjab, whose term expires on 31st March, 1948, and Dr. J. C. Chatterjee, Delhi, whose term expires on 21st December 1948.

Resolved that Mr. S. Mohiyuddin, Vice-Chancellor of the Mysore University and Pandit K. L. Dubey, Vice-Chancellor of the Nagpur University be elected as representatives of the Universities on the Advisory Board of the Indian Council of Agricultural Research in place of Khan Bahadur Mian Afzal Hussain, Punjab and Dr. J. C. Chatterjee, Delhi for a period of 3 years with effect from 1st April, 1948 and 1st December, 1947 respectively.

- XXX. To elect six representatives of the Universities on the Advisory Board of Archaeology in place of the present members whose term expires in February, 1948.

Resolved that the following persons be elected as representatives of the Universities on the Advisory Board of Archaeology, for a period of 3 years with effect from 1st March, 1948.

- 1 Dr. C. R. Reddy, Waltair,
2. Mr. M. Ruthnaswamy, Annamalaiagar,
3. Dr. I. W. Jennings, Ceylon and the Heads of departments of History of the Universities of Madras, Utkal and Benares.

XXXI. To elect two scientists from the members of the Inter-University Board on the Central Advisory Board of Forest Utilization in place of the present members whose term expires on 30th June, 1948.

Resolved that Dr. P. Parija, Vice-Chancellor, Utkal University and Dr. G.S.Mahajani, Vice-Chancellor, Rajputana University be nominated to the Central advisory Board of Forest Utilization for a period of 3 years with effect from 1st July, 1948. Resolved further that it is understood that no meeting has been held during the last three years.

XXXII Resolved that the following members be elected as representatives of the Inter-University Board to the All-India Boards of Technical Studies for a period of 3 years with effect from 1st January 1948:—

- 1 Mr. L M Chitale Madras Architecture and Regional planning.
2. Prof. B. N. Das Lucknow Commerce, Business Administration and economics.  
Gupta
3. Mr. M. Sen Gupta Benares Engineering and Metallurgy.
4. Mr. S. Mohiyuddin Mysore Chemical Engineering and Technology.
5. Mr. H. C Papworth Travancore Textile Technology.
6. Prof. N.K.Sidhanta Lucknow Applied Arts.

XXXIII. The Board considered the procedure suggested by the Indian Research Fund Association in its letter No. 10/9/47-R dated 16th October, 1947, regarding the election of 3 representatives of the Medical Faculties of the Universities having Medical

**Faculties or Boards of Studies in Medicine, to the Governing Body of the Indian Research Fund Association.**

Resolved that the following procedure be laid down for election of 3 representatives of the Medical Faculties of the Universities to the Governing Body of the Indian Research Fund Association. Nominations may be called for from the Medical Faculties from amongst the persons who may or may not be of the Medical Faculties or Universities concerned. Of the 3 people that each Medical Faculty may nominate, 2 should be from its own members and 1 from outside. After receipt of the nominations, the list of valid nominations should be sent round to different Universities wherefrom the Faculties of Medicine will elect the required number of representatives. The final list of elected representatives should be drawn up by the Chairman after scrutiny of the papers concerned and communicated to the Secretary of the Indian Research Fund Association. Resolved further that this be communicated by way of suggestion to the Universities having Medical Faculties so that they may be able to change their constitution in this respect accordingly. In the case of a tie in the elections, the Chairman's decision will be final.

**XXXIV. To elect five members of the Board to the Standing Committee for the year 1948-49.**

Resolved that the following members be elected to the Standing Committee of the Board for the year 1948-49

1. The Chairman,
2. Dr. S. Radhakrishnan,
3. Dr. P. Parija.
4. Mr. M. Ruthnaswamy.
5. Prof. N. K. Sidhanta.

Resolved further that in the case of interim vacancies in any of the Committees, the Chairman be empowered to co-opt members on behalf of the Board

**XXXV. Read letter No. 4-3/46, E II, dated the 27th November, 1947 from the Secretary, to the Government of India, Ministry of**

Education, regarding grant from the Government of India for 1947-48.

Resolved that the Government of India be informed that it is presumed by the Board that this amount refers to the period from 15th August, 1947 to 31st March, 1948.

XXXVI To confirm resolution No. 2 (a) of the Standing Committee adopted at its meeting held on 21st March, 1947, directing that the financial year of the Board should be from 1st April to 31st March as in Government Offices instead of from 1st January to 31st December as exists at present; and to authorise the Standing Committee to sanction excess expenditure over the budget for 1947 which was drawn for the period from 1st January, 1947 to 31st December, 1947 only, according to the existing practice and sanctioned by the Board in its resolution No. XLI of the Jaipur Meeting held in December, 1946.

Resolved that the resolution No. 2 (a) of the Standing Committee adopted at its meeting held on 21st March, 1947, be confirmed. Resolved further that the Chairman be authorised to operate on the Bank account of the Inter-University Board till the permanent Secretary takes charge. Resolved further that the Standing Committee is authorised to sanction the excess expenditure in the budget of 1947-48.

XXXVII. To consider the Budget Estimate for 1948-49.

*Appendix—G.*

Resolved that the Budget estimate for the year 1948-49 be approved subject to the following modifications ;—

Salaries to staff	...	Rs. 27,600/-
T. A. to members	...	Rs. 15,000/-

XXXVIII. To appoint the Secretary of the Inter-University Board of India.

(a) Resolved that a whole-time Secretary be appointed on a consolidated salary (inclusive of Dearness allowance and other allowances) of Rs. 1,000/- per month for a period of five years and that he be allowed the benefit of Provident Fund.

(b) Resolved that the following persons are recommended for the post of Secretary in order of preference :—

- |                      |                   |
|----------------------|-------------------|
| 1. Dr. J. N. Khosla, | 2. Mr. S. Mathai. |
|----------------------|-------------------|

(c) Resolved that a personal assistant to the Chairman of the Board of the year be sanctioned on a salary of Rs. 150/- per month.

(Note : The appointment of the personal Assistant should be made by the Chairman of the year)

XXXIX. Resolved that the Dearness Allowance, Compensatory Allowance and House Rent Allowance be sanctioned for the staff of the Inter-University Board office excepting the Secretary with effect from 1st October, 1947, in accordance with Memorandum No. F. 4 (4)-Est. (Spl)/47, dated 29th July, 1947 and F. 6 (1)-Est. (Spl)/47, dated 31st July, 1947 of the Finance Department, Government of India, New Delhi.

XI. To consider the appointment of Auditors for 1948-49.

Resolved that the Chairman be authorised to appoint the auditors for the year 1948-49.

XL. To consider the question of inviting proposals for the Sixth Quinquennial Conference of Indian Universities, its venue, date and other arrangements thereof. The fifth Conference was held on 15th to 17th December, 1943.

Resolved that the Government of India be addressed for a special grant of Rs 10,000/- for the holding of Quinquennial Conference at Madras.

XLII. To consider the venue and date of the next Annual Meeting of the Inter-University Board of India.

Resolved that the invitation of the University of Madras be accepted.

XLIII To elect the Chairman of the Inter-University Board of India for the year 1948-49.

Resolved that Sir A. L. Mudaliar be elected Chairman of the Inter-University Board for 1948-49.



- XLIV. Resolved that Dr. K. N. Katju, H.E., the Chancellor of the Utkal University be thanked for kindly inaugurating the session of the Inter-University Board.
- XLV. Resolved that Dr. P. Parija, Vice-Chancellor and other authorities of the Utkal University be thanked for their hospitality and arrangements made for the reception of the members of the Inter-University Board.
- XLVI. Resolved that Professor N. K. Sidhanta be thanked for his services as Chairman of the Inter-University Board for 1947-48.

N. K. SIDHANTA,  
Chairman.

## APPENDIX A.

*Memorandum on the inclusion of subjects like Industrial relations etc., in the Syllabus of Degree Courses.*

**Ministry of Labour, Government of India, New Delhi.**

There is a growing demand for Labour Welfare and Personal Relations Officers not only in Government establishments and Departments, but also in private industrial undertakings. The policy of the Government of India in the matter is to secure the appointment of such officers in all industrial undertakings but this programme can be put into effect only if suitable candidates are made available. This type of official requires the specialised post-graduate training in social sciences. At the moment such courses are offered only by the Tata Institute of Social Sciences, Bombay, and the Calcutta University. Recently Labour Department of the Government of India had consultations, in this connection, with the Director, Tata Institute of Social Sciences, Bombay and the representatives of the Calcutta University. Both these institutions propose to extend their activities in the near future and to admit more students for social sciences courses. It is, however, felt that the effective output of suitable candidates even when the proposed expansion is in force, would not be adequate.

There are two ways of increasing the output of trainees. One is to set up more institutions. New institutions cannot, however, be set up for a few years to come because of financial difficulties and the paucity of suitably trained staff. The other alternative is to reduce the period of training in the existing specialised institutions. This can be done only, if as part of general university course, students are given a good grounding in some of the subjects which are taught by the Tata Institute of Social Sciences, Bombay or the Calcutta University. It is realised that arrangements for the teaching of these subjects cannot be made by all Colleges but it may be possible to arrange for them atleast at some select Colleges. The above suggestion is placed before the University Board for their consideration and to find out whether it would be possible for various Universities to prescribe subjects like Industrial Organisation, Industrial Relations and Administration, Industrial Psychology, Social Economics and Social Biology, as part of the B.A. or M.A. courses. If this were done, it may be possible for the existing institutions to give an exemption to students who have taken these subjects for their B.A. or M.A. degrees and the reduction in the period of training would enable them to increase the output of the Labour Welfare and Personal Relations Officers.

## TRAINING PROGRAMME OF TATA INSTITUTE OF SOCIAL SCIENCES.

### Pre-Professional Courses. (Half a year).

Social Origins,  
Social Economics,  
Social Pathology,  
Social Case Work,  
Social Psychology,  
Child Development,  
Introduction to Sociology,  
Social Investigation.

### Fundamental Courses. (One year).

Indian Social Problems,  
Organisation of Social Welfare Activities,  
Psychiatry for Social Workers,  
Child Guidance Techniques,  
Social Statistics,  
Rural-Urban Social Problems,  
Social Case Work,  
Social Legislation,  
Elements of Law for Social Workers,  
Field Work,  
Social Research,  
Crime and Society.

### Specialization Courses. (One year).

#### Areas of Specialization :

1. Child Welfare Services,
2. Medical and Psychiatric Social Work,
3. Criminology and Penal Administration,
4. Industrial Relations and Labour Management,
5. Social Research.

#### Specialization Course : Industrial Relations and Labour Management.

### MAJOR AREAS OF STUDY.

#### **Labour Relations. Labour Economics and Labour Welfare.**

Introduction to Labour Economics.  
The Worker in Industry.

**Trade Union Structure, functions and organisation.**

**Collective Bargaining.**

**Politics of Labour.**

**Organisation of Welfare Programmes.**

**Family Case Work.**

### **Government and Industrial Relations.**

**Introduction to Industrial Relations,**

**The State in relation to Labour.**

**Law in relation to Labour.**

**Managerial Adjustment to Labour Law.**

**Theories of Social Reform.**

**Social Insurance.**

### **Personal Management and Human Relations.**

**Introduction to Human Problems in Industrial Society.**

**Human problems in industrial organisation.**

**Personnel Administration.**

**Psychological Principles and methods in Industrial Relations.**

**Interviewing Techniques.**

**Adjustment Counselling.**

### **PRACTICAL EXPERIENCE**

1. Internships in Industry.

2. Participation in Government Welfare and other centres.

3. Field Interviewing and Research work.

## REVIEW OF SUBJECTS OFFERED AT MELBOURNE UNIVERSITY.

The course in Personnel Practice is one of the four specialisations within the present three years' course in Social Studies, for which matriculation, a certain maturity (19 years) and personal suitability for training, as determined by interview with the Board of Studies, are the chief conditions of admission.

In designing a course which would give candidates the type of training considered necessary for Personnel Officers, the Board of Studies finally determined that this particular specialised branch could only be taken in conjunction with a course for the degree of Bachelor of Arts or Bachelor of Commerce. Both are four years' combinations, the subjects of the respective years being as follows :—

### **Arts and Social Studies (Personnel Practice:)**

1st Major—Psychology I, Industrial Psychology, Collective Behaviour  
2nd Major—Economic History I, Economics I, Industrial Organisation.  
Sub-Major—Philosophy I, Political Philosophy.

or

Pure Mathematics I, Theory of Statistics, Language other than English, Social Biology.

These subjects are to be taken as follows :—

- 1st year.* Psychology I: Economic History I: Philosophy I or Pure Mathematics I: Language.
- 2nd year.* 2nd part of Psychology major: Economics I: Social Biology: Social Work I.
- 3rd year.* Industrial Organisation: Industrial Relations: Industrial Administration: Mental Health: Social Work II.
- 4th year.* 3rd part of Psychology major: Political Philosophy or Theory of Statistics: Personnel Practice.

### **Commerce and Social Studies (Personnel Practice).**

The following combined course of Commerce and Personnel Practice has been approved :—

- 1st year.* Economics I: Psychology I: Accountancy I or Commerical Law I: Economic Geography.

*2nd year.* Social Work I: Social Biology: Industrial Organisation: Economic History.

*3rd year.* Statistical Method: Industrial Administration: Social Work II: Mental Health: Industrial Relations.

*4th year.* Money and Banking: Industrial Psychology: Personnel Practice.

You will notice that in each combined course a number of academic subjects are mixed with the purely practical aspects of Personnel Practice and Welfare. In the subjects Social Work Parts I and II, and Personnel Practice, a good deal of Field Work is included in addition to lectures, and students are required to attend or make visits of observation to factories, clinics and social agencies of all kinds.

# REVIEW OF SUBJECTS OFFERED AT ROCKHURST COLLEGE. COURSE OUTLINES.

## **A. General Ethics.**

- I. Introductory
  - (a) General subject matter in human rights.
  - (b) Definition and reason behind rights.
- II. Strictly individual Rights.
  - (a) The right to own.
  - (b) The right to use one's abilities and skills.
- III. Rights that Involve Relations with Others.
  - (a) The idea of capitalism.
  - (b) The history of capitalism.
  - (c) Making capitalism distributive.
    1. Lowering prices.
    2. Raising wages.
    3. Combinations of lowering prices and raising wages.
  - (d) A just wage and a living wage.
  - (e) The control of capitalism.
    1. Democratic control.
    2. Mechanism of democratic control: self government in industry.

## **B. How to Think.**

- I. Getting Facts.
- II. Argument.
- III. Fallacies.
  - (a) Double talk.
  - (b) Name calling.
- IV. Words.
  - (a) Definitions.
  - (b) Connotations.
- V. Argument from analogy.
- VI. The 'If' Argument.
- VII. How to Build General Principles

# **VIII. Review ; Examples.**

## **C. History of the American Labour Movement.**

- I. One Facet : Important.**
  - (a) Social life.
  - (b) Spirit of democracy.
  - (c) Associative principle.
- II. Ancient Times.**
  - (a) Class society.
  - (b) Crafts.
  - (c) Summation.
- III. Medieval Age.**
  - (a) Inheritance and problem
  - (b) Guilds.
- IV. Modern Era: Background.**
  - (a) Economic Revolution.
  - (b) Industrial Revolution.
- V. Colonial Times to the Revolution.**
  - (a) Motives behind colonization.
  - (b) Economic motives in detail.
  - (c) Basic economic life.
  - (d) Economic theory.
- VI. Revolution to 1820.**
  - (a) End of salutary neglect.
  - (b) Hamilton's report.
  - (c) The merchant capitalist.
  - (d) First trade union attempts
    1. Philadelphia Cordwainers
    2. New York Typographical Society.
  - (e) Employer associations.
  - (f) Effect of the Napoleonic Wars.
- VII. The Conspiracy Cases.**
  - (a) Philadelphia Cordwainers 1806.
  - (b) Commonwealth V. Hunt 1842.



**VIII. Attempts at Cohesive Unionism 1820-1837.**

- (a) Increased power of the merchant-capitalist.
- (b) Strikes, wages: hours.
- (c) The integrated appeal.
- (d) Depression of 1837.

**IX. Period of Decline 1837-62.**

- (a) The intellectuals.
- (b) Co-operatives.
- (c) Attempts at national organisation.

**X. National Unionism 1862-77.**

- (a) Impact of the Civil War.
- (b) Factors producing a national movement.
- (c) Violence.

**XI. Basic Roots to 1910.**

- (a) Knights of Labour.
- (b) A.F. of L.
- (c) Strikes.
- (d) Politics and the A.F. of L

**XII. Legal Problems 1842—1945**

- (a) Combination and conspiracy
  - 1. The allowable area of union activity.
  - 2. The area of dispute.
- (b) The Courts.
  - 1. Injunction.
- (c) The new Deal.
- (d) Present trends.
  - 1. Ball-Hatch Bill.
  - 2. Hoobs Bill.
  - 3. Case Bill.

**XIII. Era of the 'Brons'.**

- (a) Company unionism.
- (b) A.F. of L. problems.
  - 1. Craft autonomy.
  - 2. Jurisdictional disputes.
- (c) World War I and the Golden Twenties.

**XIV. The New Deal Era.**

- (a) Industrial unionism.
- (b) Governmental action.
- (c) War boom.
- (d) Where now ?

**XV. Revolutionary Idea.**

- (a) Rejection of the status quo.
- (b) Movements.
  - 1. Utopians.
  - 2. Socialists.
  - 3. Anarchists
  - 4. IWW.

**XVI. Labour Legislation.**

- (a) Child labour laws.
- (b) Women-minimum wages.
- (c) The constitution.

**D. Oral and Written Presentation of Labour Disputes.****I. Kinds of Labour Disputes and Places where they Originate.**

- (a) Shop disputes.
- (b) Representation disputes.
- (c) Contract interpretation disputes.
- (d) Wage negotiations.

**II. Agencies established to settle Disputes.**

- (a) National Labour Relations Act and functions
- (b) Railway Labour Act and functions.
- (c) War Labour Board and functions.
  - 1. Disputes Section.
  - 2. Wage Stabilization Section.
- (d) Fair Labour Standards Act and functions.

**III Current Labour Disputes and Procedures as follows.**

- (a) Executive orders and proposals being followed.
- (b) Presidents' Labour-Management Conference.  
Washington D. C.
- (c) United Automobile Workers—General Motors' Strike.

**(d) Pending labour disputes.**

1. Steel.
2. Textile.
3. Mortogermey Ward
4. Local disputes : packing house and stockyards.

**IV. Representatives from various governmental agencies, experienced in handling disputes will lecture to class after the above foundation has been covered.**

**V. Additional analysis of disputes as time permits.**

**E. Labour Legislation.**

**I. Federal Labour Legislation-General Discussion.**

**II. Specific Legislation.**

(a) Railway Labour Act.

(b) National Labour Relations Act

(c) Wage and Hour Act.

1. General outline.

2. Regular rate of pay.

3. Exemptions.

(d) Walsh-Healey Public Contracts Act.

(e) Davis—Bacon Act.

(f) Emergency wartime legislation.

**III. Legislative Report—A review of Bills introduced in State Legislature in 1945 and Legislative Action thereon.**

**IV. Veterans' Legislation Dealing with Employment.**

**V. Labour Law Problems.**

(a) Child labour.

(b) Women's labour.

(c) Federal eight hour law.

(d) Wage payment and collections.

**VI. Social Security.**

**VII. The U.S. Department of Labour.**

**VIII. Summation.**

## F. Principles of Economics.

### *I. Introduction.*

#### *(a) Definition.*

#### *(b) Formal object of economics.*

#### *(c) Relations of economics to other sciences, particularly ethics.*

#### *(d) Division of economics.*

### II Social framework of Economics.

#### (a) Family.

#### (b) State.

#### (c) Private Property.

#### (d) Freedom of contract.

#### (e) Economic and personal freedom.

### III. Analysis of Some Basic Concepts.

#### (a) Definitions of: good, want, utility, value, price, wealth, income, etc.

### IV. Production and Factors of Production

### V. Organization of the Business Enterprise

### VI. Cost of Production

#### (a) Definition.

#### (b) Types of cost

### VII. Price and its determination.

#### (a) The concept of the "market".

### VIII. Consumption.

### IX. Exchange.

### X. Distribution :—

#### (a) Rent.

#### (b) Wages.

#### (c) Interest.

#### (d) Profit

### XI. Distribution of National Income

## APPENDIX B.

No. F. 1-28/47-E. III (P).  
GOVERNMENT OF INDIA.  
MINISTRY OF EDUCATION.

NEW DELHI, the 20th November, 1947,

## MEMORANDUM.

Subject :—Co-ordination of Technical Education—Appointment of a Joint Committee of the All India Council for Technical Education and the Inter-University Board

The All India Council for Technical Education which has been set up *vide* Government of India Resolution No. F. 16-10/44-E. III dated the 30th November 1945 to advise Government in regard to technical education above the High School stage, except the Technological Departments of the Universities, has instituted All India Diploma and Certificate Courses in Engineering and Technology with the following objectives :—

- (i) To secure uniformity of standard of instruction and examination, so that qualifications obtained in one part of the country may be accepted without hesitation in other parts of the country.
- (ii) To enable persons who have acquired professional ability in industry, but are unable to enter the University through force of circumstances, to obtain an acceptable qualification.
- (iii) To constantly co-relate industrial practice with theoretical instruction.

It will be seen from the attached syllabus for the All India Diploma Scheme in Engineering that the syllabi are framed with due regard to the standards laid down by the Indian Universities for a Bachelor's degree in the subject, except that the Diploma Courses have generally a more practical bias as opposed to academic. Practical training for one year in an industrial concern is a condition precedent to the award of the All India Diploma. To ensure uniformity the final passing out examination is conducted by the All India Boards of Technical Studies which have been set up under the aegis of the Council. Six such Boards in the following branches of Engineering and technology have been constituted at present :—

1. Engineering and Metallurgy.
2. Chemical Engineering and Chemical Technology.
3. Architecture and Regional Planning.
4. Commerce and Business Administration.
5. Textile Technology.
6. Applied Art.

2. At its last meeting held in May 1947 the Co-ordinating Committee of the All India Council for Technical Education discussed at length the position of the All India Diplomas and Certificates *vis-a-vis* University Degrees in Engineering and Technology and came to the conclusion that for a co-ordinated development of Higher Technical Education, it was necessary that the University should have full particulars regarding the All India Diploma courses e.g. content of education, examination methods, minimum requirements of teaching and other facilities and also in respect of higher All India Diplomas of the Higher Technical Institutions proposed to be set up by the Government of India in pursuance of the recommendations of the Sarker Committee so as to facilitate the flow of students between Universities and Higher Technical Institutions for advanced studies. The Committee felt that it would be to the mutual benefit of the Universities on the one hand and the Council on the other to have a free exchange of views in the matter of curriculum, scale of staff and equipment necessary in a Technological Institution providing degree or All India Diploma Courses. With this end in view the Committee resolved that the Inter-University Board should be requested to consider the desirability of reviewing the position of Technical Education in the Universities and of appointing a Committee with which a small committee of the All India Council for Technical Education may co-operate in drawing up the general principles to be observed in regard to degree courses in technological subjects at the Universities.

The advantages which will accrue from such collaboration between the All India Council for Technical Education and the Inter-University Board in the field of Higher Technical Education need hardly be over-emphasised, and it is hoped that the Board will co-operate with the Council by appointing a committee as indicated above.

It is requested that the views of the Inter-University Board in the matter may kindly be communicated to the undersigned at an early date.

(Sd ) S. R. SENGUPTA,

Secretary,

All India Council for Technical Education.

# ALL INDIA DIPLOMA IN ENGINEERING.

## CURRICULUM.

### FIRST YEAR.

(Common to Electrical, Mechanical & Civil Engineering).

			No. of Hours per Session.	
Subjects.			Lecture and Tutorial.	Laboratory or Practical.
1.	English	...	32	...
2.	Mathematics	...	96	...
3.	Chemistry	...	32	64
4.	Heat Engines I	...	64	64
5.	Electricity Magnetism	...	64	64
6.	Applied Mechanics	...	64	64
7.	Elements of Building Construction	...	64	...
8.	Surveying	...	32	64
9.	Drawing	...	...	192
10.	Workshop Practice	...	...	128
			448	640

Total 1088 hours per session :

32 weeks of 34 hours each.

### 1. ENGLISH.

(1st yr. E.E., M.E., and C.E.)

Principles of composition and the rules and conventions of good use as applied to the word, the sentence and the paragraph. Development of vocabulary. English idiom. Letter, Precis, and essay writing. Pro-

nunciation. Talks and debates. The correction of common mistakes in writing and speaking. The avoidance of "office jargon"

## 2. MATHEMATICS.

(First year—C.E., M.E., E.E.)

ALGEBRA, TRIGONOMETRY, PLANE COORDINATE GEOMETRY.

Simultaneous linear equations; partial fractions: simple series, their convergence: simple determinants.

Complex quantities: D'Moivre's theorem and its applications trigonometric series. Hyperbolic functions

Equations of the straight line and the circle in both Cartesian and polar coordinates. Simple properties of these and conics. Reduction of the equation of the second degree.

CALCULUS.

Limits and continuity: derivatives and standard forms: rules and differentiations: successive differentiation and simple expansions.

Applications of the derivative: geometrical and physical illustrations: sign of the derivative: differentials and small errors: mean value theorem: maxima and minima values of functions of a single variable.

Integration as inverse of differentiation: standard forms simpler methods of integration. Elementary definite integrals.

Partial differential coefficients: total differentiation: applications.

Application of the derivative to plane curves referred to rectangular and polar coordinates; tangents and normals: asymptotes: convexity and concavity: points of inflexion: curvature, circle of curvature, its radius and centre:

Tracing of curves: Some simple curves, their properties.

## 3. CHEMISTRY.

(1st year E.E., M.E., & C.E.)

Engineering metals: their sources, methods of manufacture, properties, and uses. The corrosion of iron and its prevention. Protective coatings. Electroplating. Paints, varnishes, and enamels.



The Chemistry of boiler water and portable water. Boiler scale, priming and corrosion. Water treatment.

The fundamentals of colloidal chemistry.

The Chemistry of limes and cements: setting and hardening. Porcelain. Refractories. Rubber. Plastics. Glass.

Solid, liquid, and gaseous fuels and their combustion. Proximate and ultimate analysis. Flue gases and exhaust gases and their composition.

The derivatives of coal and their uses. Lubricants: types, properties, and uses. Tests. Reconditioning of oils.

### **Practical.**

A practical laboratory course, based on the syllabus.

## **4 HEAT ENGINES I.**

**(1st yr. E.E., M.E., and C.E.)**

Measurement of temperature: absolute temperature: heat units: specific heat of solids, liquids and gases. Thermal conductivity. Change of state, latent heat of fusion and vaporisation: effect of pressure.

Properties of steam: steam generation: super-heating. Elementary consideration of entropy. The use of steam tables. Boilers; economisers; feed heaters; feed pumps; boiler fittings. Boiler losses and efficiencies. Steam calorimeters. Combustion: fuels.

The steam engine: mechanical details: elementary theory. The indicator: indicated horse power. Brake Horse-power. Condensers and air pumps. Simple types of valves and valve gears.

## **5 ELECTRICITY AND MAGNETISM.**

**(1st year, M.E., E.E. and C.E.)**

Scientific and practical units for current, voltage, resistance, power and energy. Relation between electrical and mechanical units. Moving coil and moving iron voltmeters and ammeters. Forms of central hot wire instruments, megger, potentiometer, simple measuring meters,

Electrical and mechanical properties of conductors and insulators volume resistivity, mass resistivity, conductivity, temperature co-efficient insulation resistance tests, properties and uses of copper, aluminium steel and other metallic conductors, alloys, carbon, insulators, types of cables, insulation of conductors, heating of conductors, current carrying capacity of conductors, fuses, and electric heaters.

Magnetic induction, magnetising force, magnetic properties of iron, simple magnetic circuit.

Elementary Principles of D.C. Machines.

Secondary Batteries: Types, characteristics, maintenance; applications, elementary action.

Interior Wiring systems: Accessories, distribution boards, wiring circuits, wiring rules for the equipment of buildings, lightning conductors, erection and testing.

## 6. APPLIED MECHANICS.

(1st year, E.E., M.E. and C.E).

Equilibrium of forces in a plane: Couples. Friction. Equilibrium of strings. Virtual work and application to frames. Stable and unstable equilibrium. Fundamental equation of elastic bodies. Principles of work and energy

Motion of a point in a straight line. Motion of a point in a plane. Tangential and normal acceleration. Projectiles. Motion on smooth and rough curves. Simple Harmonic Motion. Oscillation. Momentum and impact. Motion of a body about a point. Motion of a body in a plane. Constrained motion. Simple circular pendulum. Moments and products of Inertia. Principal axes of inertia. Impulse and momentum. Angular momentum, angular Momentum as a vector quantity and application. Gyroscope.

Forces, moments couples. Centres of gravity, Conditions of equilibrium. Elements of graphic statics; stress diagrams, simple triangular frames and trusses.

Elementary principles and applications of linear, angular and periodic motion; velocity and acceleration. Impulse. Work, power energy, moments of inertia of rotating bodies. Simple machines; friction. Transmission of power, belt, rope, and chain drives, gear drives, simple

and compound wheel trains, epicyclic trains. Bevel, worn and helical gears. Simple cams

Beams and bending. Bending-moment and shearing force diagrams for cantilevers and simply-support beams. Graphical methods.

## 7. ELEMENTS OF BUILDING CONSTRUCTION.

(1st yr. E.E., M.E., & C.E).

Stone: Classification, characteristics, physical properties, and uses. Procurement Artificial stone.

Bricks, Tiles and Earthenware: Composition; methods of manufacture, characteristics, classification, tests. Firebricks.

Sand: types, qualities, impurities, washing, grading, Soorkee specification, method of manufacture, use.

Lime: classification, impurities, tests, manufacture. Plaster of paris and stucco.

Mortar: common and hydraulic, ingredients and proportions, methods of mixing, use Strength of mortar.

Lime concrete: size and proportions of ingredients, mixing, laying.

Lime plaster: composition and uses.

Cement: types, composition, manufacture.

Cement concrete and cement plaster, ingredients, proportions, mixing, uses in sea water.

Cast iron, wrought iron and steel.

Timber: types and species, seasoning, defects, strength, uses, tests

Preservatives and protectives.

Asbestos products: sheets, rope, cement, packing, jointing, lagging, Properties and uses.

Leather felt, coir etc.

## 8. SURVEYING.

(1st year E.E., M.E., & C.E).

Chain surveying: principles and procedure; equipment and instru-

ments; conventional signs and plotting. Determination of areas; and panto-graph, the planimeter.

Compass surveying; The Prismatic compass, its uses and adjustment. Bearings and their designations, Magnetic variations. Local attraction and its elimination. Compass traversing. Adjustment of closing error.

Elementary Levelling : maintaining field book.

## 9. DRAWING.

(1st year, E.E., M.E., & C.E).

Lettering. Use of drawing instruments. Scales-Lines.

Geometrical drawing. The projection of points, lines, planes, and solids. Sections of solids. Intersection of planes. Interpenetration of solids. Development of surfaces

Orthographic projection of simple machine parts. Isometric and oblique projection. Free-hand sketching. Drawing conventions. Dimensioning.

Mechanical details : screwed fastenings and their proportions; different kinds of screw threads; accurate and conventional representation; locking devices for nuts, rivets, keys cotter, couplings.

## 10. WORKSHOP PRACTICE.

(1st Yr. E.E., M.E. & C.E).

Smithy: Tools and equipment: names, use, care, and maintenance. Control of the forge, and maintenance of the fire.

Practical exercises involving the operations of jumping, drawing, cutting, bending, and welding. Practical hardening and tempering of chisels. Fitting: Name and use of the different kinds of chisels, files and scrapers. Hacksaws. Marking-off tools. The use of drills, reamers, and taps.

Practical exercises involving the use of the various tools.

*Carpentry*: Tools and equipment.

The detection of faults in timber. Sawing, planing, squaring and gauging.

The making of the various joints used in construction.

## ALL INDIA DIPLOMA IN ENGINEERING.

### CURRICULUM.

#### SECOND YEAR.

(Common to Electrical, Mechanical & Civil Engineering.)

Subject.	No. of Hours per Session.	
	Lecture and Tutorial	Laboratory or Practical.
1. Mathematics	64	...
2. Materials and Structures	96	32
3. Hydraulics	64	32
4. Heat Engines II	96	64
5. Electrical Engineering (D.C. & A. C.)	...	...
6. Surveying	32	64
7. Theory of Machines	32	...
8. Engineering Drawing	32	192
9. Workshop Practice	...	128
	512	576

Total 1088 hours per session :

32 weeks of 34 hours each.

### 1. MATHEMATICS.

(Second Year C.E., M.E., E.E.)

#### Calculus

Definite integral as the limit of a sum: applications to quadrature and rectification of curves. Intrinsic equation, and its application to

important cases like the common catenary. Determination of volumes and surface areas of solids of revolution or similar solids. Centres of gravity. Theorems of Pappus and Guldinus.

Approximate integration. Simpson's rule and estimation of the resulting error.

Elementary solid geometry: Equations of planes, straight line and spheres. Elementary treatment of simple surfaces of revolution.

Simple vector analysis: vectors, dot and cross products: reciprocal vectors and conjugate functions.

Elementary Differential Equations.

Equations of the first order and first degree. Integrating factors.

Linear differential equation of the first order: Clairaut's form. Linear differential equations with constant coefficients: particular integrals and their determination in simple cases. Simple simultaneous equations.

Applications to important problems specially in Engineering.

**ADVANCED MATHEMATICS applied to ENGINEERING.**

Double and triple integrations: applications to finding areas, surfaces and volumes, centres of gravity and moments of inertia.

Fourier's series and Elements of Harmonic Analysis.

Elementary Theory of Probability: applications to errors of observation etc. Graphical treatment.

Methods of solving standard ordinary and partial differential equations including the use of infinite series: elliptic integrals. Gamma and Bessel functions: further and also advanced vector analysis: Laplace transformation. Finite difference equations, applications to Engineering. Operational Methods.

## **2. MATERIALS & STRUCTURES.**

**(2nd year—E.E., M.E. & C.E.)**

Elements of the strength and elasticity of materials. Elastic constants. The testing of materials.

B. M. & S. F. diagrams of beams—simply supported under uniform, concentrated and varying loads.

Stresses due to simple bending; moment of resistance; moment of inertia; section modulus.

Shear stress in beams.

Polar moment of inertia. Simple torsion of shafts.

The strength of thin cylinders.

Influence lines of B.M & S.F. for simply supported beams. Live loads, wind loads on structures.

Deflection of beams; cantilevers and simply-supported beams with concentrated and distributed loads. Graphical methods.

Principal stresses, compound stresses and strains. Relationship between elastic constants. Combined torsion and bending. Close coiled and open coiled spiral springs. Flat carriage springs. Riveted and welded joints.

Structures: Roofs, cranes, derricks, shear legs, tripods.

### 3. HYDRAULICS.

(2nd yr. E.E., M.E. & C.E.)

Applications of hydrostatics.

Principles of the flow of fluids: steady and varying motion.

Fluid acting on a piston.

Theorem of Bernoulli.

Flow in orifices, mouthpieces nozzles, notches and weirs.

Law of fluid resistance to motion. Flow in pipes: methods of calculating loss of head, and discharge. Loss due to bends, elbows, alteration in section, valves, etc.

Flow in channels of different section. Standard formulae. Variation of velocity in the section of a channel. Calculation of discharge.

Measurement of flow in channels and in pipes. Water meters. Impulse reaction of jets on vanes. Losses, power and efficiency.

Vortices, free and forced.

### 4. HEAT ENGINES II.

(2n Yr. E.E., M.E. & C.E.)

Elementary principles of thermodynamics. Laws of gases: Molecular heat; Operations involving changes in volume, pressure, and tem-

perature. Internal energy and external work. Ideal and actual engine cycles. Steam engine efficiencies.

**Internal-Combustion Engines:** The four-stroke cycle gas engine, description, valve timing, ignition, calculation of power and efficiency, governing, Producers and producer gas. The two stroke cycle engine. The petrol engine; carburettors and carburation. The oil engine; compression ignition; blast injection; airless injection; fuel systems and governing; four stroke and two-stroke types. High-speed oil engines. The Humphrey pump.

Air Compressors and motors.

Transmission of power by compressed air. Simple compressors, Two-stage-three-stage types. Calculation of power, dimensions of cylinders, and efficiency, effect of clearance. Similarly for air motors. Preheating; overall efficiency, mechanical details. Fans and blowers.

**Steam Turbines.** Elementary principles, and description of simple types.

The testing of power plant: standard methods of tabulating data, readings, and results. Testing equipment. Analysis of indicator diagrams; detection of faults in engine and indicator. Valve-setting. Fuel sampling and testing for solid, liquid and gaseous fuels; analysis and calorific value. - Other properties of liquid fuels. Sampling and analysis of flue gases and exhaust gases.

## 5. ELECTRICAL ENGINEERING.

### Paper I.

#### (2nd Year.....C, M. & E.)

**D. C. Generators and Motors:** Construction, characteristics and uses of various types, simple lap and wave winding, back c. m. f. formula, starter and field regulators, speed control of D. C. Motors.

Elementary theory of Alternating Currents, quantities and vectors, maximum R.M.S. and mean values.

Inductance, capacitance, reactance, series and parallel circuits with resistance, inductance and capacitance. Resonance, Power and Power factor in single phase circuits.

**Lighting and Illumination Lamps:** all types, testing. Photometric definitions, measurements, simple calculations of illuminations, coefficient of utilization, reflectors and fittings—various types.



Distribution. Two and three wire systems, alternating currents-watt meters, various types of A.C. meters and their uses.

Elementary ideas of single and polyphase currents.

## PAPER II.

### 2nd Year.....C, M & E.)

D. C. Generators : Problems of armature reaction, commutation, critical resistance, efficiency, reversal of rotation.

D. C. Motors : Dynamo used as motor, back e.m.f., speed and torque calculations, efficiency, speed control, controllers, starter calculations, testing, parallel operation of D. C. generators, load division.

Secondary Cells : Types, characteristics, methods of charging, diseases and treatment, repairs.

Distribution : Balancers, boosters, Simple ideas about harmonics, three voltmeter and ammeter method of measuring power, dynamometer type of ammeters voltmeters and watt meters. Induction type instruments

Single phase energy meters. D. C. meters. Calibrations of instruments and meters

Transformers : Construction, shell and core types. Principle and theory of action. Mutual inductance, equivalent reactance, resistance and impedance, e.m.f., equation, vector diagrams, regulations, efficiency, open and short circuit tests and determination of regulation and efficiency therefrom, hysteresis. Polyphase systems : Power and power measurement, advantages gained by using polyphase currents, elementary principles of power factor correction.

Use of symbolic notation. Simple cases.

Synchronous generators and motors : Construction, elementary theory, vector diagrams of the motor.

Induction Motors : Production of rotating field, types, construction, elementary theory, slip and slip measurement, characteristics, circle diagram, testing, starting.

Induction Generator : Elementary theory and its uses.

System of distribution.

A. C. 3 phase 4 wire distribution system. Simple calculations.

## 6 SURVEYING.

*(2nd year E.E., M.E. & C.E.)*

*Plane tabling: equipment and its use, methods of plane-tabling, radiation, traversing and triangulation, resection, the three-points problem, the two-points problem, precautions and accuracy.*

The theodolite: description and constructional details of various types, adjustment of the instrument, Theodolite traversing closed and unclosed traverses, methods of traversing, and maintaining field records, conditions fulfilled in a closed traverse, methods of plotting, Gales system, Computations, Closing error and its adjustment, The subtant bar and its use.

Spherical Trigonometry and Astronomy :

Fundamental formulae of spherical trigonometry (without proof) and their application to solutions of spherical triangles.

Convergency of meridians: Celestial sphere, different systems of coordinates corrections for altitude, refraction and parallax, equation of time, construction of the sun dial.

## 7. THEORY OF MACHINES I.

*(2nd Year, E.E., M.E., & C.E.)*

Friction in journals, pivots, collars, ball bearings etc., theory of fluid friction and lubrication.

Rectilinear and rotational motion in a plane. Constrained motion. Instantaneous centre, centrode. Kinematics of machines: Angular and linear velocities in link mechanisms. Slider and crank chain mechanisms and its inversions. Quick return motion. Velocity and acceleration diagrams.

Inertial of the reciprocating parts of an engine: Crank effort diagrams, turning moment diagrams, Inertial and kinetic energy of the connecting rod.

Cyclic variations of speed; flywheels.

Theory of governors: application to various types.

## 8 ENGINEERING DRAWING

(2nd Yr. E.E., M.E., & C. E.)

The drawing of simple buildings, culverts and engineering constructional details from models and from measurements of actual objects. The elements of building design.

The making of sketches and drawings from actual machine parts and assembly units. The making of detail drawings from assembly view, and vice versa.

The elements of design : strength of bolts and studs, pipe joints

—

## 9. WORKSHOP PRACTICE.

(2nd Yr. E.E., M.E., & C.E.)

**Pattern making** :—Suitable timber, construction of patterns. Allowances. Contraction scales, Joints, Loose pieces. Core prints. Core-boxes. Skeleton patterns. Sweeps, Requirements for metal patterns.

**Foundry Work** :—Different kinds of moulding sand. Practice in making moulds in green sand and dry sand. Loam moulding. Demonstrations of machine moulding.

Charging the cupola. Melting, tapping and pouring of metal.

Fettling of castings. Defects and their prevention.

**Welding** :—Electric Welding and Gas Welding. Equipment precautions. Practice in making different types of joints. Testing of joints.

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New Delhi,

9th October, D-250 copies.

**ALL-INDIA DIPLOMA IN ENGINEERING CURRICULUM.****MECHANICAL ENGINEERING.****Third Year.**

Index No	Subjects.	No. of hours per session.	
		Lecture and Tutorial.	Laboratory or Practical.
M. 3.1	Theory of Machines	64	...
M. 3.2	Strength of Materials	64	32
M. 3.3	Hydraulic Machinery	64	32
M. 3.4	Heat Engines.	96	64
M. 3.5	Machine Design	64	160
M. 3.6	Engineering Economics and Accounts.	64	...
M. 3.7	Engineering Production	64	...
M. 3.8	Metrology	32	64
M. 3.9	Engineering Metallurgy	32	...
M. 3.10	Workshop Practice	...	192
		544	544

Total 1088 hours per session ;

32 weeks of 34 hours each.

**M. 3.1. THEORY OF MACHINES'**

**(3rd Yr. M.E. & E.E.)**

Valve gears for sliding valves. Link motions. Poppet valve gears.

Brakes dynamometers. Belt, rope and chain gearing. Toothed gears : tooth shapes. Wheel trains : helical, worm, and bevel gearing, couplings and clutches. Cams for various purposes.

Balancing of rotating and of reciprocating parts of single-cylinder engines. Secondary balancing. Locomotives. Balancing of multi-cylinder in-line engines.

Gyroscopic action.

Vibrations : Transverse and torsional oscillations. Vibration of beams, girders and shafts. The whirling of shafts. Critical speeds.

### M.3.2 STRENGTH OF MATERIALS.

(3rd Year—M.E., & E.E.)

Encastre beams; symmetrical and unsymmetrical loading, beams fixed at one end and supported at the other. Continuous beams; Combined bending and direct stress.

Built up beams and plate girders. Thick cylinders and spheres. Compound cylinders, force and shrink fits. Alternating stresses, fatigue, overstrain, creep.

Strength of cranked levers and cranked shafts, single throw and multi-throw.

Strength of rotating rings and discs. Turbine rotors, blading.

Effect of high temperature on strength of parts.

### M.3.3. HYDRAULIC MACHINERY.

(3rd Year M.E. & E.E.)

Water wheels. The Pelton wheel. Impulse and reaction turbines: inward and outward flow, mixed flow, axial flow, propeller-type turbines, principles of operation, calculation of power, losses and efficiencies. Governors, control valves, surge tanks, characteristic curves.

Centrifugal pumps : Calculation of head, discharge, losses and efficiency, elements of design, characteristic curves.

Cavitation in Pelton wheels, turbines, and pumps.

Reciprocating pumps; separation, air vessels, diagrams of effective pressure, efficiencies, methods of driving.

Rotary pumps. Air lift and other types of pumps.

Hydraulic couplings and dynamometers.

Hydraulic accumulators and intensifiers: Lifts, cranes, riveters, presses etc.

### M.3 4. HEAT ENGINES.

#### (3rd Year M.E.)

Entropy of gasses: changes of entropy under various conditions. Entropy of water and steam. Temperature-entropy and heat-entropy diagrams for steam, various operations shown on entropy charts. The Carnot and Rankine cycles on entropy charts. Application of these charts to steam engine problems.

Steam consumption, missing quantity, transference of the indicator diagram to the temperature-entropy chart. Relation between consumption and power. Condensation. Leakage. Steam jacketing. Superheating.

Multiple-expansion engines: different types, calculation of cylinder dimensions, equalisation of piston loads and of work done in the cylinders, methods of varying the power, valve gears, starting valves, combination of indicator diagrams.

Theory of the flow of steam through nozzles. Injectors. Ejectors. Calculation of turbine nozzle dimensions: Nozzle details.

Classification of turbines. Velocity diagrams for impulse types. Velocity-compounding and pressure-compounding. Blading, diaphragms, glands rotors, balancing, governing. Power, losses and efficiencies.

The reaction pressure turbine: Theory and Mechanical details. Multistage turbines. Composite turbines

Regenerative feed-heating.

Internal combustion engines: Process of combustion; effect of compression, turbulence, pre-ignition, detonation, effect of design of combustion chamber. Fuels, dopes, octane and cetane numbers. Mixture strength, carburation, supercharging. Ignition systems.

Combustion chambers, automatisers and fuel pumps for compression-ignition engines. Governing.

Refrigeration; Air-compression refrigerators, vapour-compression machines. Comparison of working fluids, calculation of power required, and coefficient of performance. Rating, testing, mechanical details. The use of entropy diagrams for refrigeration problems. Absorption machines. The Platen Muntz system. Applications of refrigeration.

### M.3.5. MACHINE DESIGN.

(3rd Year M.E.)

The design of engine, boiler, and machine parts and assembly units, with reference to economical manufacture as well as to strength of the parts. Complete working drawings.

### M.3.6. ENGINEERING ECONOMICS AND ACCOUNTS.

(3rd Yr, M.E., E.E., & C. E.)

Wealth. Supply and demand. Production. Raw materials, and resources of industry. Capital. Industrial evolution. Industrial organisation. Ownership. Partnerships.

Limited companies. Cartels and Trusts. Managing Agencies. Provision of Capital: shares and debentures.

Value and exchange. Money and credit markets. Banking. Domestic and international trade. Foreign exchange. Taxation Insurance.

Book-keeping and accounts: The journal, cash book, purchase book, sales book, ledger. Double entry. Balancing: Trial balance, balance sheet. Trading and profit and loss accounts. Bad debts. Auditing.

Principles of industrial accounting. Financial statements. Valuation and depreciation. Costing and estimating. Prime costs, oncosts selling costs. Control of expenditure: budgets: reports.

Specifications, tenders and contracts.

Office organisation

### M.3.7. ENGINEERING PRODUCTION.

(3rd Year M.E., & E.E.)

**Organisation. Administration** The formulation of Policies. The carrying out of policy.

**Management.** The application of scientific methods to management. The position of management in relation to capital, labour, and Society in general. Training for management; relative values of theory and experience.

**Works organisation:** design, research and development, purchase, production, sales and distribution. Different types of organisation.

**Production organisation:** Different kinds of production and the corresponding staff, equipment, and methods required.

**Production planning:** Operation sheets, production estimating and costing, material ordering

**Progress work:** job cards, progress sheets, charts, and control boards, procedure in special circumstances such as breakdown of machinery or rejection of parts.

**Tool design, manufacture, and storage.**

**Wage systems.** Payment by results. Motion study, time study, rate-fixing. Time-keeping and pay departments.

**Manufacture:** Detail organisation of departments and sections. Co-ordination of departments

**Purchase and stores organisation :** Books and forms required.

**Works transport.** Works maintenance.

**Selection of site for an engineering works.** Factory layout. Lay-out of individual departments.

**The personnel department:** Selection, training, control and welfare of workers.

**Industrial psychology:** Psychological principles, the personal factor in industry, mental testing, industrial fatigue, environment, reduction of accidents.

**Trade unions.** Industrial legislation; the Factory Act ; the Workmen's Compensation Act.

**The tracing of the progress of an order for a particular unit of machinery through all stages of production, from the invitation to quote to final delivery and payment.**



**M.3.8: METROLOGY.****(3rd Yr. M E )**

Measurement, direct and indirect methods. Standards of length. Scales. Simple measuring instruments: verniers: Micrometers—outside, inside, depth gauges. Dial gauges, Minimeters. Feeler gauges. Slip gauges. Length standards and their preparation. Comparators. Measuring machines. Optical methods of measurement. Surface plates and their preparation

Instruments for measuring angles the checking of squares, the sine bar, other methods of setting up work at given angles. Precision spirit levels

Precision measurement of the diameters of holes and of cylindrical plug gauges; also the checking of internal and external tapers. The checking of curved surfaces and templates

Limits and fits: Unilateral and bilateral systems, hole and shaft bases. Standard systems of limits and fits. Limit and inspection gauges. Gauge tolerances.

Selective assembly.

Methods of measuring the various elements of a screw thread: Limit gauges for screw threads, the measuring of gear wheel teeth.

Jigs and fixtures—their use, main features of construction, and elements of design

The production of precision surfaces: heat treatment, warping, growth, grinding, scraping, lapping.

Methods of checking the accuracy of construction and alignment of machine tools.

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**M.3.9 ENGINEERING METALLURGY.****(3rd Year M.E.)**

Engineering metals, their properties, and structure. Thermal equilibrium diagrams. Structure of alloys. Carbon steel.

The manufacture of pig iron, different grades and their uses. The design of sound castings. Malleable cast iron. Wrought iron. Fractures of metals in various states and their appearance under the microscope.

*Steel manufacture: bessemer, open hearth, crucible and electric furnace methods. Quality of product. Structure. Effects of hot and cold working. Effects of various elements. Classification of plain carbon steels.*

*Heat treatment, effect in microstructure and mechanical properties. Case hardening and nitriding. Alloy steels, tool steel other tool materials. Furnaces and pyrometers.*

*Non-ferrous engineering alloys, specifications, properties, and uses. Hot and cold working, die casting. Bearing alloys. Light alloys. The machinability of metals.*

### M.3.10. WORKSHOP PRACTICE.

**(3rd Yr. M.E.)**

*Machine shop work; Principles of operation of the various types of machine tools. Application of Electric and Hydraulic equipment to machine tools. Safety measures. Cutting tools for different purposes. Lathe work. Tool grinding. Marking-off. Shaping, slotting and planing. Milling. Grinding.*

*The making of selected machine parts and small assembly units including fitting and assembling.*

## ALL-INDIA DIPLOMA IN ENGINEERING.

## CURRICULUM

## ELECTRICAL ENGINEERING.

## Third Year.

Index No.	Subject.	No. of hours per session.	
		Lecture and Tutorial	Laboratory or Practical.
E. 3 1	Theory of Machines	64	...
E. 3 2	Strength of Material	64	32
E. 3.3	Hydraulic Machinery	64	32
E. 3.4	Electrical Engineering	192	160
E. 3.5	Elements of Electrical Design	64	160
E. 3.6	Elementary principles of Line Telegraphy, Telephones and Radio Communication	64	64
E. 3.7	Engineering Economics and Accounts.	64	...
E. 3 8	Engineering Production	64	...
		640	448

Total 1088 hours per session ;

32 week of 34 hours each.

## E. 3.1. THEORY OF MACHINES.

(3rd Year E.E.)

Same as for 3rd Year M.E.

## E. 3.2. STRENGTH OF MATERIALS.

(3rd Year E.E.)

Same as for 3rd Year M.E.

**E. 3.3. HYDRAULIC MACHINERY.  
(3rd Year E.E.)**

Same as per third year M.E.

**E. 3.4. ELECTRICAL ENGINEERING.  
(3rd Year E.E.)**

*Part "A" Advanced Electrical Technology.*

Rate of change of current in an inductive circuit, charge and discharge of a condenser.

Polyphase circuits containing resistance, inductance and capacitance simple cases, testing of iron including the separation of eddy current and hysteresis losses, Calculation of eddy current loss. Testing of insulating material for dielectric strength and loss.

Armature windings: derivation of general expressions for electromotive force and magneto-motive force.

Alternators: Factors affecting wave-form; armature reaction; load characteristics; testing, principles of parallel operation.

Instruments:—Methods of standardisation of instruments for the measurement of current, voltage power and energy, oscillographs

Transformers: Equivalent circuits; complete vector diagrams; open and short circuit tests, and determination of efficiency and regulation there from: back-to-back tests; auto-transformers; instrument transformers

Synchronous Motors:—V-curves, application to power-factor improvements, starting including the starting of the synchronous induction type.

Rotary or synchronous Convertors—Construction, voltage and current ratios, single phase, two phase, three phase, derivation of six phases, methods of starting, effect of excitation, polarity, static and rotary balances, power factor and voltage control.

Motor Convertors:—Construction, mode of operation, principle simple connections comparison with motor generators and rotary convertors, relative efficiencies.

Induction Motor:—Factors affecting torque, maximum torque power factor control and speed variation, testing and construction of circle diagram from experimental results.

Mercury arc and other forms of rectifiers:—Principle, construction. Glass bulb, metal clad or steel tank rectifier: general description, essential connections, comparison with other methods of conversion. Gas discharge lamps and thermionic valves.

A. C. Commutator motors: Single phase, series, shunt and repulsion types theory, construction and applications, starting methods, speed control and power factor. Special Machines—Phase advances frequency changes-static and voltage regulators-General principles, construction, various types, operation and applications.

*Part "B" Electric Power. Generation. Transmission and Distribution.*

Generation: Source of supply, types of power plant, types of current, choice of site, various determining factors, choice of Prime movers and auxiliaries, types, size and number of units, load and diversity factors, their influence on the cost of generation, systems of excitation.

Circuit breakers for low, medium and extra High voltages, regulating and protective devices, principles of remote control, interconnexion of stations voltage, frequency and power factor control.

Transmission: Systems of transmission by D.C. and A.C., standard voltages and frequency, choice of voltage, size of line wire, Keppins Law, spacing of conductors and poles testing and maintenance of cables and lines, voltage transients and lines surges, corona simple line calculations, protective systems.

Calculation of self inductance of conductors (both single phase and three phase), capacitance of electrostatic stresses of single core and multicore cables, reactance drop and capacity currents, voltage regulation, solution of short and medium lines, split, middle and three condenser methods, Power factor, correction and its economic limits, methods of boosting voltage, induction regulators, insulators and grading rings, towers and crossarms.

Economics of power transmission, comparison of D.C. and A.C. systems. Calculations relating to overhead lines.

Types of cables and their electrical and thermal characteristics. Intersheaths, dielectric loss, interference between power and communication circuits, lighting protective equipment. Earthing, insulated and earthed neutrals in high voltage systems. Operation of transmission lines in parallel.

**Distribution:** Systems of distribution of power by Direct and Alternating currents, applicability of each to various conditions, standard voltages and frequencies, network types. Calculations, choice of feeding points. Determination of insulation resistance and location of faults. Protective systems. Voltage control. Relative weights of copper for Power factor correction. Electricity Tariffs. Illumination, calculation and measurements, simple lighting schemes.

### **E. 3 5. ELECTRICAL DESIGN.**

**(3rd Year E E.)**

**D. C. Generators and motors :** Elements of design, output equation, magnetic and electric loadings, flux distributions, magnetic circuit, magnetic paths, leakage factor

Calculation of ampere turns for shunt series and interpole coils. Design of shunt, series and interpole fields. Determination of armature diameter and length. Number of conductors and coils, slots, insulation of slots, reactance voltage, calculation of length and section of armature conductor, Determination of armature resistance and voltage drop. Losses, armature copper and iron shunt, series and interpole field, windage, friction and brush loss, efficiency, heating and ventilation.

**Alternators:** Elements of design, output equation, salient and distributed pole rotors, magnetic and electric loadings, single and double layer windings. Electromotive force. Cooling of turboalternators and determination of losses from temperature rise of cooling air

**Transformers :** Design of single phase and three phase transformers  
**Induction Motor :** Elements of Design.

### **E 3 6. ELEMENTARY PRINCIPLES OF LINE TELEGRAPHY, TELEPHONY AND RADIO COMMUNICATION**

**(3rd Year—E. E )**

**Telegraphy:** Elementary theory of direct current telegraph transmission. Effects of inductance capacitance and resistance. The form of the arrival current. Distortion of signals. Single and double current working. Simple ideas upon the frequency band width required

for telegraph working; relation between speed of signalling and band width. The operation of a number of telegraph channels over a single circuit using carriers which can be segregated at the ends of the circuit.

The use of filters. Compositing circuits. The morse and five-unit codes. The Band.

Telephony: Use of secondary cells in central battery systems; description of types commonly employed; ordinary charging and discharging, voltage and specific gravity changes.

The nature of sound. The conversion of sound energy to electrical energy and vice versa.

The construction and simple theory of such apparatus as the following:

Receiver. Transmitters. Induction Coils. Repeating Coils. Resistors. Inductors. Condensers. Indicators. Magnetogenerator. Vibrator. Bells. Relays. Protective devices.

Simple telephone sets, local and central battery types. Radio Communication: Construction of two electrode and three electrode thermionic valves; principles of action and characteristic curves with application to non-reactive load.

Detecting devices for small alternating potentials; contact rectifiers and valves.

Construction and action of telephone receivers and electromagnetic loud speakers.

High frequency and low frequency thermionic amplifiers, essential principles of action. Causes of distortion.

Simple circuits of radio receivers including use of retroaction. Qualitative ideas of selectivity.

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### **E 3.7 ENGINEERING ECONOMICS AND ACCOUNTS.**

**(3rd Year E.E.)**

Same as for 3rd year M.E.

### **E 3.8 ENGINEERING PRODUCTION.**

**(3rd Year E.E.)**

Same as for 3rd year M.E.

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## ALL-INDIA DIPLOMA IN CIVIL ENGINEERING.

CURRICULUM.  
CIVIL ENGINEERING.

## Third Year.

Index No.	Subjects	Number of hours per session to be devoted to		Number of Exami- nation Papers.
		Lectures and Tutorials	Laboratory Drawing Field work	
C. 3.1	Engineering Geology	64	64	One
C. 3.2	Plane and Geodetic Surveying.	64	64	One
C. 3.3	Theory and Design of Structures: (a) Building Construction (b) Theory of Structures (c) Reinforced Concrete (d) Structural Design	192	256	Two
C. 3.4	Civil Engineering I. (a) Roads (b) Railways	64	---	One
C. 3.5	Civil Engineering II. (a) Hydraulics (b) Irrigation (c) Water Supply (d) Sanitary Engineering	96	64	Two
C. 3.6	Quantity Surveying	64	---	One
Same as for M.E. E.E.	Engineering Economics, Accounts and Industrial Psychology	64	---	One
	Report writing	32	---	One
Total ...		640	448	

Total 1088 hours per session :

32 weeks each of 34 working hours.



## ALL-INDIA DIPLOMA IN CIVIL ENGINEERING.

Syllabuses of Study (Third Year—Civil Engineering Course).

### C. 3.1. ENGINEERING GEOLOGY.

The composition and structure of the earth and the internal and external processes which modify the crust and surface. Dynamical and Structural Geology.

Geological conditions that affect particular engineering operation such as tunnelling, the building of dams, the retention of water in reservoirs, foundation, excavation harbour work, control of erosion and land slides, materials of construction, etc.

(The course includes lectures, laboratory, map construction and field trips).

Text Books—Watt—Geology.

Fox—Engineering Geology.

Wadia—Indian Geology.

### C. 3.2. PLANE AND GEODETIC SURVEYING.

Tacheometry and contour survey;

Topographic Surveys; setting out of curves; Base line measurements, triangulation; Determination of latitude and true meridian by sun and circumpolar star observations; Earthwork measurements; Stream gauging; etc.

(The course includes lectures, field work and drawing).

Text Books —Clarke—Plane and Geodetic Surveying Vols, I & II.

### C. 3.3. THEORY AND DESIGN OF STRUCTURES.

#### (a) Building Construction.

- (i) *Details of Construction.* Building regulations, Sites foundations, Timbering, Shoring, Scaffolding, Underpinning. Brick and stone masonry. Reinforced concrete and brick work, centres and moulds. Walls, piers and retaining walls, arches, vaulting and domes. Lintels and sunshades. Floors and roofs of buildings. Doors, windows and partitions. Carpentry and wooden joints. Staircases. Steel skeleton buildings. Minor bridges

- (ii) **Construction Methods.** System of construction, false work, steel form, distributed foundation, protection of basement wall, sub-soil drains, ventilation and air conditioning, heat and sound insulation. Fire, earthquake resisting construction, ornamental plaster, metal and decorative work.

Mechanical equipment used in construction.

Text Books: Mitchell—Building Construction, Vol. II.

Jaggard and Drury—Architectural Building construction, Vols. I and II.

**(b) Theory of Structures.**

Columns; combined bending and shear stresses. Deflection of structures.

General principles of Stress analysis of redundant frames, frames with stiff joists, behaviour of connections in stool frames. Elastic arches and rings. Effects of moving load system, influence lines for statically determinate and indeterminate structures. Theory of gravity dams, elementary principles of soil mechanics, earth pressure and retaining walls.

Text Book: Pipard and Baker—Analysis of Engineering Structures.

**(c) Reinforced concrete.**

Theory of composite structure; Properties of concrete and reinforcements; Testing of mix. General principles of design of beams, slabs and columns.

Text Book: Caughey:—Reinforced Concrete.

Faber: Reinforced Concrete simply explained.

**(d) Structural Design.**

Design of Beams, columns, plate girders, roofs, foundation, piles, retaining walls, piers and abutments, simple framed building masonry arches; and simple reinforced concrete structures.

Text Books: Grinter—Elementary Structural analysis and design.

Husband and Harvey—Structural Engineering.

Oscar Faber—Reinforced Concrete Design.

### C. 3.4. CIVIL ENGINEERING I.

**(ROADS AND RAILWAYS.)** General principles of railway and highway location and surveys; Problems relating to curves, grades earthwork, study of the mass diagrams as applied to railway and highway earthwork, drainage.

A comparison of the various types of highway construction; Elements of soil mechanics; Design, construction and maintenance of road and pavements.

Track lay-out, construction and maintenance.

**Text-Books:** Allen—Railway Curves and Earth work.

Raymond—Elements of Rail Road, Engineering.

Leeming—Roads,

### C. 3.5. CIVIL ENGINEERING II.

#### **(a) Hydraulics.**

Pipe-line losses; branch mains; Multiple Supply, distribution system; Syphon, Inverted syphon.

Flow in open channel, critical velocity, most suitable form, non-uniform flow; Erosion of channels and silting; Gauging of flow, hydraulic turbines; centrifugal pumps and other hydraulic equipment.

**Text-Book :—**Daugherty.....Hydraulics.

#### **(b) Irrigation.**

Functions of irrigation works; Methods of irrigation; Different types of canals. Survey for selection of alignments of canals. Head-works—description and selection of site, works—description of escapes, falls, rapids, etc. Drainage and training.

**Text Book:** Ellis Irrigation.

#### **(c) Water Supply.**

Importance of public water supply, Consumption of water for different purposes. Sources of supply Relation of rainfall to water supply. Works for the collection, purification, and distribution of water.

#### **(d) Sanitary Engineering.**

Drainage and Sewerage; systems of sewerage, combined and separate. Sewers and drains; sewer materials and cross-sections. Computation

of flow in sewers and drains House drainage, description of fittings of sanitary engineering and plumbing equipment. Public Latrines and urinals. Sewage disposal, treatment of sewage. Selection of sites for disposal works.

**Text Books:** Ehlers and Steel—Municipal and Rural sanitation  
Steel—Water supply and sewerage.

### C. 3.6. QUANTITY SURVEYING.

General principles of cubing and pricing; standard methods of measurements. Method of procedure-taking off, marking, heading abstracting, costing-reducing and billing. Variation and Accounts. Schedule of prices. General principles of valuation and rental, and cost of land and building, General principles of specification.

(Students will have to survey a complete building including steel work, plumbing, electrical fittings).

**Text Book:** Coleman and Flood—Specification and Quantity Surveying.

## APPENDIX C.

### **Equivalence of Ceylon Government Senior School Certificate to Matriculation.**

The Senior School Certificate Examination is organised by the Ceylon Government and is controlled by an Examination Council over which the Director of Education presides and which includes as members the Vice-Chancellor and 3 Professors of the University. The normal age of admission is between 16 and 17 and 16 is the minimum age for private candidates. To pass the examination a candidate must pass in English, a second language, and three other subjects and reach a satisfactory standard in the examination as a whole. In and after 1947, however, the number of subjects necessary has been increased to six, including English and a second language. The examination is recognized by the University of London for exemption from its matriculation on the same basis as the School Certificates of English Universities. It is a necessary preliminary qualification for the Entrance Examination of the University of Ceylon, which is of Higher School Certificate level. The University of Ceylon recognizes the Matriculation Examination of a University in

India or Pakistan as equivalent to the Ceylon Government Senior School Certificate Examination.

## APPENDIX D.

### **Allowance of one year of Intermediate Course to students passing Higher School Certificate of Ceylon Government.**

The Ceylon Government Higher School Certificate Examination is organised by the Ceylon Government and the University of Ceylon jointly and is controlled by the Examination's Council mentioned above. It is a joint Higher School Certificate and University Entrance Examination, the University selecting those candidates who conform to its rules and attain the necessary standard. Candidates must have spent at least one year in an approved school since passing the Senior School Certificate Examination, and most candidates in fact spend two years. The normal age of the candidates is thus between 18 and 19. Candidates must pass in four subjects.

## APPENDIX E.

### UTKAL UNIVERSITY.

#### **A Scheme of Physical Education.**

1. It is generally recognised that students do not pay adequate attention to their own physique and that something should be done to improve the health of the next generation. The question of physical education is under the consideration of various Planning Committees and learned bodies, and I hope that something tangible will be done in the Post-war period. I wish, however, to put forward one concrete suggestion for immediate consideration.

2. My proposal is simply to capitalize student psychology which is dominated by marks obtained at the University Examination and the class and other distinctions gained in consequence. Educationists speak of building up healthy minds in healthy bodies. But in actual practice all the 800 marks at the Matriculation Examination are given for a healthy mind and not a single mark is given for a healthy body. My proposal is to increase the number of marks to 900 and allot the extra 100 marks to physical education. The subject will be compulsory and every student must submit himself to an examination irrespective of any other consideration.

A tentative distribution of the '100 marks' allotted to physical education is noted below :—

(i)	General physique	...	...	50 marks
(ii)	General appearance including smartness, cleanliness, etc.	...	...	15 marks.
(iii)	Games including Athletics	...	...	25 marks
(iv)	Scouting, Bratachari or similar other qualification	...	...	10 marks.
Total				100 marks.

3 The examination should be conducted by a Board of Examiners consisting of a Chairman, a Doctor and a Physical Instructor at each centre. The Chairman should be a prominent official or non-official unconnected with any particular educational institution. I believe that many people will gladly offer their services in the interests of the new generation. The Doctor and the Physical Instructors should be paid something for examination of each candidate. If all candidates have their height, weight and chest measurement recorded in advance, I think that it should be possible for the Board to finish the examination of about 100 candidates per day. The Board will finally allot marks for physique and general appearance etc., by examining candidates stripped to the waist on a parade ground. Marks for games including athletics and scouting etc., may be allotted on a consideration of the reports of headmasters of different schools showing the interest taken by each candidate in Games, Scouting etc., and the degree of proficiency attained by him. The examination will be a rough and ready test but that, I feel, is no justification for shelving the problem or postponing it because a more elaborate system cannot be devised at once. Even in the marking of written papers there is likelihood of a certain amount of injustice to candidates depending on the mood of the examiner. Absolute justice is impossible and I think that mistakes made in giving marks under the four different heads noted in para 2 are likely to equalise themselves.

4. Girl students should be similarly examined by a Board of Women including a Lady Doctor. Private students should undergo the same examination, the marks for games and scouting etc., being allotted by questioning students about the games which they play and so on.

5. There may be an apprehension of failure in the physical test which I am prepared to meet by lowering the pass marks from 30 to 20, or 10 or even down to zero. I do not want anybody to fail in the Matric

merely because of bad physique. But I insist on the marks obtained in the physical examination being counted in the aggregate so that they may definitely affect the class obtained in the examination, the award of scholarships and so on. Anything less would rob the scheme of its psychological value. Provided the subject is made compulsory and provided the marks count for place, scholarships and so on, human psychology will begin to work and an inner craving will be set up to build up physique with whatever material is at hand. It is possible to build up a healthy body without play-grounds, games, apparatus and other equipments, provided the will is there. Anybody can perform *Dund* and *Baithak* and become a *Pahalwan*, provided the will is there. But so long as the University allots 800 marks to the mind and not a single mark to the body, I can hardly blame students for becoming book-worms and neglecting their bodies or treating them as of minor importance. And I can hardly blame guardians for not paying enough attention to the health of their wards.

6 To get the psychological factor working at once it will be necessary to give wide publicity to the scheme and inform all students that they would be examined in physique at the next Matriculation examination early in 1946, and that the marks will count in the aggregate although pass marks may be reduced to zero.

7 An examination conducted on these lines will furnish valuable data about the health of students and help us to plan for the future. Later on, it will be possible to tighten up the regulations, increase the pass marks to 30 o/o and in other ways make physical education more effective. Ultimately I feel that physical education should be allotted at least 25 o/o of the marks at the Matriculation Examination but for the present I shall be content with only 11 o/o (100 out of 900).

8. Once the University recognises physical education as a subject for the Matriculation Examination, Schools will follow suit and introduce physical education as a subject at the Annual Examinations from Class I upwards. It will then be possible in course of time to have a record of marks obtained by each student at the Annual Examinations up to Class X which will help the examiners in allotting marks at the Matriculation Examination.

9 I would advocate extension of the same principle upwards to the B. A. and other examinations, but I shall be content if the principle is accepted at the Matriculation Examination to start with.

10. If the University accept my proposal, I feel confident that I shall be able to persuade Government to approve of it. Provided the will is there, I foresee no difficulty in the necessary amendments to the University Regulations being pushed through in time to enable the examination to be held in February or March, 1916.

11. Judging from discussions which I have had with some educationists, I foresee a number of objections being raised and attempts made to whittle down my proposals. It has been suggested that the marks obtained in physical education should not count in the aggregate or for award of scholarships. It has also been suggested that separate certificate should be given for passing the physical test. These or other modifications entirely overlook the psychological factor.

12. Poverty and under-feeding should not stand in the way. I would certainly welcome provision being made for milk and *Chapatis* to all School children during the recess period, but this is part of long range planning which should not affect my plans. All students now appear at the same examination irrespective of differences of intelligence, ability to engage private tutors and similar other factors, favourable and unfavourable. There is no reason why differences in physique due to heredity, climate, insufficient nourishment and so on should stand in the way of all students appearing at the same physical test.

13. It is well known that the Public Service Commission attach great importance to physique, general appearance, smartness and so on. Many people attach 50 o/o importance to these qualifications and only 50 o/o to academical qualification. I hope the University will attach at least 11 o/o importance to physical education reserving 89 o/o for brain work.

14. The only expenditure which I contemplate is for holding the examination. This should not cost more than one rupee per candidate. If the University cannot find the money from its own resources, the Matriculation fee of Rs. 15/- should be raised to Rs. 16/-. Nobody will feel this increase at present.

15. I request that whoever considers these proposals would give me an opportunity of personally meeting any objections which they may have to urge. I feel that my rough and ready scheme affords some corrective for evils which cannot be tackled at present in any other way. I repeat again that my scheme is not meant to be a substitute for more ambitious schemes which are being put forward by experts. It is only



a convenient stop-gap arrangement until other schemes begin to function, though the psychological principle underlying it is indeed capable of universal application.

B. K. GOKHALE.  
15-8-1944.

UTKAL UNIVERSITY.

Courses of Study  
for  
**PHYSICAL EDUCATION, 1946.**

There shall be a Physical examination for the Matriculation examination of 1946. The full marks of 100 shall be distributed as follows :—

(i)	General Physique ... ..	50 marks
(ii)	General appearance including smartness, cleanliness etc. ...	15 marks.
(iii)	Games including Athletics ...	25 marks.
(iv)	Scouting, Bratachari or similar other qualification ... ..	10 marks
	<b>Total</b>	<b>100 marks.</b>

The pass mark shall be 15. Other details about the examination are mentioned in a Scheme of Physical Education by Mr B. K. Gokhale, a copy of which has been sent to every Headmaster.

It has been decided that the standard of physical examination prescribed for boys shall also be adopted in case of girls for the 1946 examination only. The following table lays down the standard on which the Physical Education Examination under item (i) above shall be conducted for the year 1946.

Table No I

Age.	Height in inches.	Weight in lbs	Chest measurement in inches.	
			During maximum expiration.	During maximum inspiration
15	63	105	28.5	30.5
16	64	110	29.5	31.5
17	64.5	114	30	32
18	65.5	118	30.5	32.5
19	66	120	31	33
20	66	120	31	33

Boys who will attain the measurements given in Table I without any visible physical defects shall receive 60 percent of the allotted marks for general physique. For increase of every one pound in weight above the figure noted in above table, a boy shall receive one additional mark.

For extra expansion of every half an inch a boy shall receive 0.5 marks and for every extra inch of chest measurement during inspiration, a boy shall receive 2 extra marks. The examiners should use their own discretion for increasing or decreasing height.

The following table gives the measurements of the better developed boys in Orissa.

**Table No. II**

Age	Height in inches	Weight in lbs.
16	65	114.3
17	64.8	112.3
18	65.3	117.7
19	66.6	119.1
20	65.8	117

The following table gives the provincial average of all schools in Orissa under different age groups.

**Table No. III**

Age	Height in inches	Weight in lbs.	Chest measurement in inches.	
			During maximum expiration.	During maximum inspiration
15	62.8	92.2	28.7	30.4
16	63.9	98.3	29.4	31.1
17	63.8	101	29.7	31.6
18	63.8	108.8	30.9	32
19	64.9	108.5	31.5	32.5

Anybody having the measurements noted in the provincial average of all the schools shall receive 30 per cent of the marks allotted to general physique. For intermediate measures between better developed boys and the provincial minimum, marking should be graded between 60 per cent and 30 per cent.

The marks assigned for general physique should be equally distributed under three heads, maximum height, weight and chest measurement.

All necessary records for this examination should be kept ready as soon as possible before the examination.

The examiners should use their discretion in awarding marks under items (ii) (iii) and (iv).

#### APPENDIX. F.

No. F.5/16/47-E.

#### FEDERAL PUBLIC SERVICE COMMISSION.

Simla, the 14-7-47.

From

Dr. R. M. Ray, Ph.D., F.S.S. (Lond.),  
Secretary,

Federal Public Service Commission,

To

The Secretary,  
The Inter University Board of India,  
10, A. Cavalry Lines, DELHI.

**SUBJECT :—** Scheme of subjects for the competitive examination for recruitment to the All India Administrative Service.

Sir,

I am directed to invite a reference to the Government of India, Home Department letter No, F. 147/Ests (R), dated the 3rd March, 1947, addressed to you and copy endorsed to this office, and to say that the Government of India have created a new Service, viz. the All-India Administrative Service in place of the old Indian Civil Service.

The Federal Public Service Commission are considering the question of draft rules for the competitive examination for recruitment to the new Service. They would like to have the suggestions of the Inter-University Board on the general question and particularly on a scheme which has been submitted to the Commission for consideration. I enclose for reference and comparison a copy of the rules for the Indian Civil Service Examination of 1943, and invite attention to rule 17 of those rules which prescribed the subjects for that examination.

The scheme proposed for consideration is as follows :—

It is based mainly upon that of the Indian Civil Service examination, with modifications.

### **SECTION A, COMPULSORY SUBJECTS.**

These were Essay English, General Knowledge and a Modern Indian language. Members of the service will have to carry on their work in English and one or more Indian Languages and the ability to read understand and express themselves clearly and concisely in these languages is, therefore, rightly regarded as indispensable qualifications. The General Knowledge paper is intended to test the candidate's range of interests and width of outlook and should remain. It is doubtful, however, whether the Essay should be retained. The qualities which it is intended to test by an essay are the candidate's ability to think out the implications of a particular topic, to arrange his thought in an orderly, logical, individual and interesting manner and to express those thoughts in appropriate and well-chosen language with due economy of words. These are very desirable qualities, but they are tested by many of the other papers a candidate has to answer. Nearly every answer in many of the papers should, more or less, be an essay. On the other hand, the 'personal equation' inevitably enters in the marking of an essay to a much greater extent than in the marking of other papers. In one year in the Indian Civil Service examination 40 o/o of the candidates were given no marks at all for the essay, while these same candidates obtained an average of 11 o/o in English. In marking a single answer the vagaries of individual examiners find ampler scope than in marking a paper with five or six answers, especially when, as in the essay, the impression formed is based not on precise facts or accurate information but on originality judgment, arrangement and expression.

On the whole, perhaps by dropping the essay nothing of value will be lost and a fairer assessment of the comparative merits of the candidates may be reached.

If the Essay is omitted, the total marks (500) in Section 'A' should be redistributed as follows:-

English	.....200
General Knowledge	.....150
Modern Indian Language	.....150

As regards Section B, the optional subjects fall into three groups (i) Languages and Civilisation, (ii) History, Economics, Politics, Law and Philosophy and (iii) Mathematics and the Sciences. No candidate is allowed to offer optional subjects for more than 800 marks altogether.

The object of having a large variety of optional subjects is to give every candidate who has had a sound general (as distinct from professional) education up to the degree standard the opportunity of offering subjects in which he has specialised in College or University. In other words, the subjects are chosen not because of their usefulness to the future administrator but because they enable the candidate to show the nature and extent of his knowledge in his own chosen fields. It follows that all important subjects of study at the degree stage should be included in the list and that they should be given more or less equal weight.

At the same time, it is equally desirable to ensure that all candidates have attainments in more than one subject. No candidate should be able to gain an entry into the service on the strength of a single subject nor, on the contrary, should candidates be allowed to choose too many subjects. These are not imaginary dangers. To take only the 1941 examination, some candidates offered only languages, others only history. On the other hand, there were candidates who offered a language, history and chemistry. The temptation to choose a variety of subjects which are regarded as easy options, although the candidate did not study them for his degree, is often irresistible. While the choice of subjects should not be unnecessarily limited, some restriction on the selection seems desirable.

It is accordingly proposed that the subjects should be arranged in related groups. A candidate may choose any group as his major group; and from that group he must take subjects which carry not less than 400 marks or more than 600 marks. He may also choose one or two other minor groups, from each of which he must take subjects which carry not less than 200 marks. The Maximum number of marks in the optional subject offered will be 800.

If this principle is agreed to, it is suggested that the optional subjects should be grouped as follows :—

Group I.	{ Arabic Language	... 200
	{ Arabic Literature	... 200
	{ Persian Language	... 200
	{ Persian Literature	... 200
	{ Literature of a Modern Indian Language.	... 200
Group II,	{ Sanskrit Language.	... 200
	{ Sanskrit Literature	... 200
	{ Pali Language	... 200
	{ Pali Literature	... 200
	{ Literature of a Modern Indian Language.	... 200
Group III,	{ English Literature-I	... 200
	{ English Literature-II	... 200
	{ Latin Language and Literature	... 200
	{ French Language and Literature	... 200
	{ German Language and Literature	... 200

Provided that no candidate may offer subjects from Groups I-III together for more than 600 marks.

In Group III some changes have been made. In the past, English Literature was divided into general (200) and four periods (100 each), no candidate being allowed to offer papers for more than 400 marks in English Literature. The periods have been grouped into two and General English Literature has been omitted.

French and German have been included, as these are taught in some Indian Universities and will be useful for candidates for the Foreign Service ; and the marks for Latin have been increased from 100 to 200 and the subject has been expanded by the inclusion of Latin Literature.

Group IV.	{ Indian History-I	... 100
	{ " " -II	... 100
	{ " " -III	... 100
	{ Modern European History	... 200
	{ British History	... 200
	{ Recent World History	... 100

In the past, European History was divided into two periods and British History into three (100 each). These have been grouped to

form a single subject each. "Recent World History" has been added, as it is a very important subject for the administrator or politician.

Group V.	{ General Economics	... 200
	{ Economic History	... 100
	{ Public Economics	... 100
	{ Political Theory	... 100
	{ Political Organisation	... 100
	{ Law	... 200
	{ Statistics	... 100
Group VI.	{ Moral philosophy	... 100
	{ Metaphysics	... 100
	{ Logic	... 100
	{ Psychology (including Experimental Psychology).	... 100
	{ Political Theory	... 100
	{ Law	... 200
Group VII.	{ Lower Mathematics	... 200
	{ Higher Pure Mathematics	... 200
	{ Higher Applied Mathematics	... 200
	{ Astronomy	... 100
	{ Statistics	... 100
Group VIII	{ Lower Physics	... 200
	{ Higher Physics	... 200
	{ Lower Chemistry	... 200
	{ Higher Chemistry	... 200
Group IX	{ Lower Botany	... 200
	{ Higher Botany	... 200
	{ Lower Physiology	... 200
	{ Higher Physiology	... 200
Group X	{ Lower Physiology	... 200
	{ Higher Physiology	... 200
	{ Lower Zoology	... 200
	{ Higher Zoology	... 200
Group XI.	{ Lower Geology	... 200
	{ Higher Geology	... 200
	{ General Geography	... 200
	{ Anthropology	... 200

In Group XI, "Advanced Geography" has been changed into "General Geography" and "Social Anthropology" with 100 marks to "Anthropology" with 200. Geography is an important subject; but very few candidates have in the past offered Advanced Geography. General Geography may attract more candidates.

### SECTION-C, NO CHANGE.

The general standard of the examination will approximate to the Honours standard of an Indian University. Students who take Honours in any subject will also have done other (usually allied) subjects up to the pass standard in most universities ; or if, as in some universities, the Honours is a three years course and limited to one subject, that subject generally includes at least parts of allied subjects. For instance, in Calcutta, a student who takes Honours in History has to offer also English and a vernacular up to the Pass standard ; in Madras, Honours in History includes also a good deal of Economics and Politics. The proposal that a student should take 400-600 marks from one group and 200-400 from one or two other groups means only that he will take as his major group the one that includes his main Honours subject and as his minor group that which includes a subject which he will have done in College or University up to the Pass standard. No great burden will thus be imposed on any student by the method of grouping and the allocation of marks here proposed.

The division of histories and English Literature into a number of short periods with 100 marks each led in the past to a great number of candidates offering one of these periods although they had never done them at College. It is to discourage this tendency that these subjects (with the exception of Indian History which does not easily lend itself to single grouping) have been now combined into only one or two groups each.

The Commission will be grateful for suggestions and comments which the Inter University Board may have to make regarding the suitability of the scheme proposed in the preceding paragraphs. A very early reply will be much appreciated.



# RULES FOR THE INDIAN CIVIL SERVICE EXAMINATION, 1943.

17. The examination will include the following subjects. Each subject will carry the number of marks shown against it.

**Section A.—To be taken by all candidates.**

	Marks.
1. Essay.	... 150
2. English.	... 150
3. General Knowledge.	... 100
4. Modern Indian Language.	... 100

**Section B.**—Candidates are allowed to take up subjects in this section up to a total of 800 marks.

## Languages and Civilisations.

	Marks.
5. Arabic Language.	... 200
6. Arabic Civilisation.	... 200
7. Persian Language.	... 200
8. Persian Civilisation.	... 200
9. Sanskrit Language.	... 200
10. Sanskrit Civilisation.	... 200
11. Pali Language.	... 200
12. Pali Civilisation.	... 200
13. Literature of a modern Indian Language.	... 200
14. English Literature (General )	... 200
15. English Literature (Period 1)	... 100
16. English Literature (Period 2)	... 100
17. English Literature (Period 3)	... 100
18. English Literature (Period 4)	... 100
19. Latin Language.	... 100
History, Economics, Politics, Law and Philosophy.	

	Marks
20. Indian History (Period 1)	... 100
21. Indian History (Period 2)	... 100
22. Indian History (Period 3)	... 100
23. Modern European History (Period 1)	... 100
24. Modern European History (Period 2)	... 100

	Marks.
25. British History (Period 1)	... 100
26. British History (Period 2)	... 100
27. British History (Period 3)	... 100
28. General Economics	... 200
29. Economic History	... 100
30. Public Economics	... 100
31. Political Theory	... 100
32. Political Organisation	... 100
33. Law	... 100
34. Moral Philosophy	... 100
35. Metaphysics	... 100
36. Logic	... 100

**Mathematics and Science.**

	Marks.
37. Lower Mathematics, Pure and Applied.	... 200
38. Higher Mathematics, Pure	... 200
39. Higher Mathematics, Applied	... 200
40. Lower Chemistry	... 200
41. Higher Chemistry	... 200
42. Lower Physics	... 200
43. Higher Physics	... 200
44. Lower Botany	... 200
45. Higher Botany	... 200
46. Lower Geology	... 200
47. Higher Geology	... 200
48. Lower Physiology	... 200
49. Higher Physiology	... 200
50. Lower Zoology	... 200
51. Higher Zoology	... 200
52. Advanced Geography	... 200
53. Astronomy	... 100
54. Statistics	... 100
55. Psychology (including Experimental Psychology)	[... 100
56. Social Anthropology	... 100

**Section C.**

57. Viva Voce (vide Rule 28)	... 300
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18. In subject 4 (Modern Indian Language) a candidate may offer any one of the following languages:-Assamese Bengali, Gujarati, Hindi, Kanarese, Malayalam, Marathi Oriya, Punjabi, (Gurmukhi), Sindhi, Tamil, Telugu, Urdu.

19. The Civilisation (subjects 6, 8, 10 and 12) associated with a language can only be taken by candidates who also offer the language itself.

20. In subject 13 (Literature of a Modern Indian Language, a candidate may offer the literature of any one of the following languages:-Bengali, Gujarati, Hindi, Marathi, Punjabi (Gurmukhi), Tamil, Telugu, Urdu,

21. In English Literature (subjects 14 to 18 inclusive) a candidate may not offer subjects carrying a total of more than four hundred marks. Thus a candidate who offers English Literature (General) (subject 14) may not offer more than two periods of English Literature (subjects 15 to 18).

\* \* \* \*

23. Candidates who offer Advanced Geography (subject 52) must produce a certificate that subsequent to the passing of the Intermediate or an equivalent examination they have undergone practical training in that subject for a period of one year in an institution authorised to prepare candidates in the subject for a University degree or for some other qualification accepted by the Federal Public Service Commission as of adequate standard. The certificate must be signed by the head of the institution.

24. Candidates who offer Astronomy (subject 53) must satisfy the Federal Public Service Commission that they have been trained in an Astronomical observatory for a period of at least three months or have had other experience of the use of astronomical instruments.

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28. (i) A candidate must obtain such an aggregate of marks in the written tests as to satisfy the Federal Public Service Commission that he is qualified by education for appointment to the Indian Civil Service. He must also obtain in the viva voce test (subject 57) a sufficiently high mark to satisfy the Commission that he is suitable in other respects for the service.

- (ii) The Federal Public Service Commission may exclude from the viva voce test those candidates who have failed to obtain a qualifying mark in the written test.
- (iii) The marks obtained by the candidates in the written test shall not be disclosed to the members of the board convened to conduct the viva voce examination.

## APPENDIX—G.

### Budget Estimate for the year 1948-49.

#### Receipts.

		Rs.	a.	p.
Contribution from the Constituent Universities	...	22,000	0	0
Contribution from the Government of India	...	40,000	0	0
Sale of Publications	...	150	0	0
Interest from Fixed Deposits	...	200	0	0
Inter-University Sports contributions	...	4,000	0	0
Total	...	66,350	0	0

#### Payments.

		Rs.	a.	p.
Salaries to Staff	...	27,600	0	0
House rent	...	3,000	0	0
T. A. to members	...	15,000	0	0
Contingencies including postage etc.	...	3,000	0	0
Printing of Annual report, Agenda, Research list etc.	...	3,000	0	0
T. A. to Staff	...	2,000	0	0
Inter-University Sports	...	4,000	0	0
Provident Fund	...	1,988	0	0
Dearness Allowance	...	6,964	0	0
Misc.	...	200	0	0
Furniture	...	...	...	...
Books and Magazines	...	...	...	...
Total	...	66,752	0	0

